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An Address.[1]

ASPECTS OF THE LIFE OF A COLONIAL SURGEON: THE HONOURABLE W. L. CROWTHER, F.R.C.S., C.M.Z.S., SOMETIME PREMIER OF TASMANIA.

By W. E. L. H. CROWTHER,
Hobart.

No man deserves a monument who could not be wrapped in a winding-sheet of papers written against him.—POPE.

IN commencing this address, I wish first of all to thank you for the honour of being again asked to act as president, and secondly, to comment on my choice of subject. It is concerned with the many-sided life of my grandfather as a surgeon here in Hobart, and it carries our family story through another generation. It was only after much thought that I decided on this theme, which throws considerable light on the medical and political happenings of the period, and also enables me as an act of filial duty to record the courage and resource with which my ancestor met his many difficulties and reverses. For a fuller understanding of the subject, much more should have been said of the medical rivalries and the bitter personal dislikes—often amounting to hatreds—that existed, and of their repercussions. I find, too, that much has been omitted—as, for example, my grandfather's association with the Court of Medical Examiners (the earliest medical statutory body in the Commonwealth), which still functions as our Medical Council. And so on. But the times are unsuitable for such writing, and there has been little leisure in which to do it; but such as it is, I now present the address to you.

[1] Read at the annual meeting of the Tasmanian Branch of the British Medical Association on August 11, 1942.

William Crowther's Life as a Schoolboy and His Medical Education.

On January 21, 1842, William Lodewyk Crowther returned to Hobart Town by the schooner *Waterlily*. The voyage from England to Sydney he had taken as surgeon on the ship *William Jardine*. Within a few days he began practice at 33, Campbell Street, the house lately occupied by Captain Bunster.

Although he had been born on April 15, 1817, at Haarlem, Holland, where his parents, William Crowther, M.R.C.S., and his wife, Sarah, were on a visit, it was not William Lodewyk Crowther's first contact with Van Diemen's Land. As a child of seven years, with his parents and his sister Elizabeth, he had arrived here on January 24, 1825, by the ship *Cumberland*, of which his father was surgeon. The voyage had lasted for more than six months, of which period three weeks had been spent at Rio de Janiero refitting after a fire. Shortly after their arrival the children were sent to the two best schools, William to that of Mr. Claibornes at Longford, and Elizabeth to Mrs. Clark's famous "Ellenthorpe Hall" at Ross. At both institutions the pupils were admirably taught. Although the main road was by this time in use, the boy, who was already well developed, after a while discarded the coach, and with a schoolfellow or even alone walked the hundred and more miles across country between the school and his home. Such journeys were adventurous, since there were hostile natives and bushrangers at large. My father has told me of such incidents as the following. On one occasion, about daybreak, the boys discovered from the top of a high bluff a camp of natives beneath. Instinctively they rolled large boulders down on it, and then fled for their lives. Hard pressed by the pursuing blacks, they took refuge in a hollow log, over which the former jumped without seeing them, and from which they later made their escape. How unsettled conditions were is illustrated by the following incident: once, in the early morning, they entered a shepherd's hut on the outskirts of the little

hamlet of Bagdad, to find in it the body of its owner transfixed with spears. A happier occasion was when the boys were awakened in a hard frost by sounds of cracking in the nearby marsh. This they found to be due to a small mob of emu, already (*circa* 1830) approaching extinction. One of them my grandfather shot with the single-barrelled gun he always carried, and I still possess a feather from this bird—a most rare specimen, as the skins of the Tasmanian emu that still remain are, I believe, all in Continental museums.

In this manner my grandfather became hard physically, and developed an affection for natural science that remained with him all his life. He so developed his tall, spare frame that it is on record (Bartley, 1892) that he walked on a long summer day more than fifty miles from Oatlands to Hobart Town, shooting as he went.

His school days over, he became a pupil or apprentice to his father, as was then the custom, and worked with him in the practice (Crowther, 1935). This was no sinecure, as his father was in indifferent health, and the boy was gradually given such tasks as the arduous walk on foot over the Mt. Wellington range into the Huon, to undertake the medical care of those living there. I was told by an old patient, some thirty years ago, that these visits were made each fortnight. Crowther learned his profession from private practice alone. Attendance at the Colonial Hospital as a pupil was apparently the prerogative of those who were trained by Dr. Scott, the principal colonial surgeon. In spite of this handicap he was soon sufficiently qualified to be admitted to co-partnership with his father at the dispensary (Waterloo Mills) as surgeon apothecary and *accouchcur*, as was shown by a notice in the *Hobart Town Courier* of March 10, 1837. The question of his return to England to complete his education presented more difficulty, as his father was in no position to help financially. Crowther had, however, for several years shot and trapped native birds and animals, and so with a large collection of skins and live fauna as his great asset, he sailed for England from the Derwent on February 24, 1839, as surgeon on the barque *Emu*. I still have his daily journal of the voyage (Crowther, 1937), which gives in considerable detail the happenings in regard to his professional duties and the care of his animals. Entries in those of his text-books that are still extant show that he read methodically, and on the terminal page of two of them he noted the day on which they were finished and the ship's position.

The most difficult task was the feeding and care of his livestock—white hawks, parrots and other native birds, wombats, native devils, kangaroos and wallabies. Somehow, in spite of cold and sea-sickness, he fed and watered them so that they kept their condition. Many observations were made on sea birds, and a number were caught and their skins added to his collection. After Cape Horn had been rounded, and with the heat of the tropics, a number of the parrots died. Eventually, however, most were landed safely in London. The whole collection was purchased from him by the Earl of Derby, at Knowsley. The price included fifty guineas for the pair of Tasmanian devils, and the proceeds of the sale not only provided for his training at St. Thomas's Hospital, but gave him in addition nearly a year at the Hôtel Dieu, Paris. Here, although he contracted typhus fever, he had the good fortune to work under Louis and others of the great clinical teachers, who had made Paris the world centre for post-graduate study. From Paris he went to Brussels, where at the Embassy on June 14, 1841, he married his cousin, V. Marie Louise, daughter of Colonel A. B. Muller, of the 7th Royal Fusiliers (Figure I). Then came his long journey home to Van Diemen's Land, as surgeon on the ship *William Jardine*.

Practice during the Forties, Fifties and Sixties.

After the death of Crowther's father on Christmas Day, 1839, the practice was taken over by Dr. W. Mill, who, however, relinquished it on Crowther's return and joined the government medical service. As the old home "Sans Souci" had been sold, Crowther began work from Campbell Street. His immediate success was due to ability alone. He had no influence, and was indeed handicapped by the memories of his father's many quarrels with officials, medical and lay.

In order that much of what follows may be understood, the large part played by the local Press must be kept in mind. With no telegrams, and mails being few and far between, the reporters were avid for details of work done at the hospitals and elsewhere. From such reports, which would now be regarded as unethical, sprang many controversies between medical rivals, who were not slow to point out what they thought were mistakes in diagnosis and treatment. In such differences Crowther was a redoubtable opponent. He did not understand such a thing as compromise, and both gave and expected heavy punishment. As a consequence he needlessly made bitter enemies of men whose help and cooperation would have meant much in later life.

FIGURE I.

W. L. Crowther at the date of his marriage (1841).

It will be seen that medical men brought with them to this new world the *odium medicum* or professional hatred that was so well known in the old. It existed to a degree that would be unbelievable in these less formal—or rather, far too tolerant—days. It is not too much to say that it embittered the whole course of professional life, as medical men arrayed themselves in opposing groups. Yet in their formal dress and with their strict professional code they were good fighters, and their stern and watchful criticisms of each other kept weaker brethren up to the standard. A somewhat similar censorship among ourselves today would be stimulating and helpful. So bad were conditions in the times under review that to Dr. Henry Butler alone could my grandfather turn to look after his patients on the rare occasions when he went shooting or for other causes was away from his practice.

The first notice of Crowther's work in the Press appeared in the following form in the *Hobart Town Courier* of March 25, 1842:

Mr. Crowther operated for this deformity [club foot] upon a child aged 9 years, of Mr. Thos. Reeves of 40 Davey Street, by dividing the Tendo Achillis and Plantar Fascia in each foot. The operation was performed with little pain and occupied but a few minutes. The case is progressing favourably.

The economics of general practice are of interest, and in an old cash book are details of his fees from February 4, 1842, to May 24, 1856, as well as statements of annual income from practice from 1842 to 1886. In another small volume are the names of the women he confined and the fees charged over a long series of years. The first item in the account book is £116 11s., representing the fees Crowther received as surgeon on the *William Jardine* on the voyage from England. A first *accouchement* at £2 2s. was followed by two more, one at £1 11s. 6d. and the other at £2 2s. The charge for advice with a prescription (whether dispensed by himself or not Crowther does not state) varied between 5s., 7s. 6d. and 10s. 6d., whilst on July 24 7s. 6d. was charged for the extraction of a pea from a child's nose. It was then the custom to accept an annual fee for attendance on a family; the first of such fees recorded by Crowther was £10 10s., paid in advance on November 3. For a dental extraction the fee was 5s., and Crowther's total income for the year was £416 11s. Twelve years later his income was £3,086 11s. 6d., and the fee for most consultations was 10s. 6d. Unfortunately Crowther no longer specified in the account the services for which the larger fees were paid. Many entries are for £21, which appears to have been the annual fee for attendance on well-to-do families. There remains a receipt for £21 from Mr. J. Wilkinson, pharmacist, for such a service; it is dated January, 1852. For *accouchements* Crowther now charged three or four guineas, although some conducted in the poorer parts of the town were entered at one and two guineas. Obstetric engagements from 1853 to 1884 averaged about fifty a year.

It will be gathered that fees were surprisingly large during these years, and that they compare favourably with those charged, for example, in 1912, when I had my first experience of general practice. Crowther charged fully for his services; but all through a busy working life it was his custom to see without fee those who were needy and who came to his house from 7 a.m. until his breakfast time. In this work he was associated with his friend, Mr. J. Wilkinson, who dispensed the medicines *gratis*. This, surely, is the place to record the fact that Mr. Wilkinson's grandson, Mr. Leslie Wilkinson, still controls the old pharmacy, which has been in business on the same site since 1833. Some of the earliest day books and prescription folios are still in existence, and at the wish of Mr. Wilkinson are to find a home in the library of the Royal Society of Tasmania.

The foundation of the Hobart Town Dispensary and Humane Society was another source of help to the needy. It was constituted in the manner shown in the following extract from the *Tasmanian Royal Kalendar*, 1849:

Sir W. Denison, Patron, Henry Hopkins, Esq., Treasurer, a provisional committee of 36 and as visiting surgeons, Drs. Crowther and Crooke, This Society was established in 1847 for furnishing medical attendance, medical and other aid, for the indigent sick free of expense and is supported by voluntary contributions. Annual subscribers of £1 1s. are entitled to retain one patient constantly under treatment, whether attending at the Dispensary or visited at his own home as the case may require and any person giving a donation of £10 10s. to the Institution will be entitled to the same privilege for life.

Dr. Pugh, of Launceston, is given priority for all Australia in the use of general anæsthesia, when on June 9, 1847, at St. John's Hospital, using ether, he performed an operation for a tumour of the jaw and cataract. The following extract from the *Hobart Town Courier* of April 19, 1847, excited in me the hope that in view of the tender age of the patient and the presence of other medical men, Crowther might have been entitled to this great honour; but a close search of the Press discloses no mention of the use of ether on the occasion:

Lithotomy. We understand the lateral operation was performed about a fortnight since by Dr. Crowther in the presence of several medical men, and a calculus of considerable size extracted. The patient, a little boy, aged 7 years, has, we are happy to say, recovered without an unfavourable symptom. We believe this to be one of the first cases that has occurred in private practice in the Colony.

When next year chloroform was introduced, Crowther was one of the first to use it. The drug itself was prepared by his friend, Mr. Wilkinson, at the pharmacy. The *Hobart Town Courier* notes that on July 10, 1848, Dr. Crowther performed another lithotomy, using chloroform. The anæsthetists were not named, although the quality of the anæsthesia is mentioned as having been very fair. It is only just to state that without these reports from our Press little would be accurately known of the introduction of anæsthetics.

In the issue of the same paper for August 8, 1847, there occurs this interesting case report:

We omitted in our last number through press of matter to notice the result of an important surgical operation undertaken by Dr. Crowther for the cure of an inguinal aneurism of extraordinary size. The operation consisted of placing a ligature on the iliac artery, within the abdomen, by which means the supply of Blood to the Tumour, would be cut off and in consequence if everything proceeded favourably, a cure effected. This has been the case—the patient, a gardener of Mr. Walker's at Sorell, will in a few days resume his normal occupation. Mr. Crowther was assisted by Drs. Lucas and MacAndrew of the 96 Regt. and the principal medical gentlemen resident in Hobart Town being present. We are informed it is a most delicate piece of living dissection and reflects the greatest credit to the operator. It is, we believe, the first case that has occurred in the Colony.

No mention is made of any anæsthetic agent, but it is reasonable to think that ether must have been employed. Where the operation took place is not stated. The old Colonial Hospital was not then accessible, so St. Mary's Hospital, founded in 1841 by Dr. E. S. P. Bedford, was probably used. It was built for small wage earners who did not wish to go to the Colonial Hospital, which was then used almost entirely for paupers, convicts and those with tickets of leave. Later, patients of an intermediate type were accommodated at St. Mary's Hospital. With Dr. Bedford were associated Dr. Pearson Rowe and Dr. H. Butler; but apparently others treated their patients there. Only this year I was speaking to an old patient, in his nineties, who told me that he had been treated there by my grandfather and operated upon for an abscess of the leg. This must have been shortly before its closure, as a result of the transfer of the old Colonial Hospital to the Tasmanian Government by the Home authorities on December 31, 1859. The General Hospital, as it was now called, was then placed under the control of a board of management, and an honorary medical staff, consisting of Dr. Bright, Dr. Crowther, Dr. Doughty and Dr. Smart, was elected.

The way being now open to him to undertake surgery on a large scale, Crowther soon attained an intercolonial reputation for his work on the bladder. He contributed two articles on this subject to *The Lancet*, one (August 3, 1867) being entitled "A Few Remarks on the Safety of the Median Operation for the Removal of Stone from the Bladder, the Section being Limited to the Membranous Urethra, with Simple Dilation of the Prostate Gland". In this article are described a series of 20 cases (a large number under local conditions) and his method of operation. Crowther claimed, as his contribution, the use of the oiled index finger in place of any metal instrument, to dilate the prostatic portion of the urethra sufficiently to allow the calculus to be seized and withdrawn. He held that this method resulted in diminished hæmorrhage, little damage to the pelvic fascia and soft parts, and rapid recovery and good ultimate function. A second article, published in *The Lancet* of November 1, 1873, was entitled "Urethrotomy in Aged and Debilitated Persons". In this he discussed the question as to whether, in the presence of a calculus, chronic degeneration of the kidney could in all cases be diagnosed, and if so, what was the best treatment to be adopted. The recent death of the Emperor Louis Napoleon after several crushing operations for stone had

made the question one of topical interest. The unfortunate Emperor had had three sittings, each followed by shock, vomiting and rigors, and after such suffering it was found *post mortem* that only half of a very large calculus had been removed. Crowther went on to urge the use in such cases of his favourite median operation as being both safer and more logical. He gave details as to the progress of a patient of his own, aged seventy-three years, who had recently made a good and rapid recovery after this procedure.

In association with his surgical work Crowther had been active in the collection and preparation of specimens of the Cetacea. As a result, on March 14, 1869, he was awarded the gold honour medal of the Royal College of Surgeons. The award was made with the following citation:

In consideration of the great value and importance of his many liberal contributions to the Museum and of the manner in which he has thereby conduced to the improvement of material knowledge and of the healing art.

Crowther was the fifth recipient of this great honour, which has been awarded on only nineteen occasions since 1802. Two months later he was elected a Fellow of the College. It is of interest to note that in 1935 the Australian Institute of Anatomy, Canberra, recognized his merit by placing his face mask in position among those of other eminent Australian scientists.

The Death and Mutilation of the Body of William Lanné (King Billy).

King Billy's dead, Crowther has his head,
Stokell has his hands and feet.
My feet, my feet, my poor black feet,
That used to be so gritty,
They're not on board the *Runnymede*,
They're somewhere in this city.

Anonymous.

The news of the award of these honours came to Crowther at an hour when he greatly needed some support, as earlier in the year he had been deeply involved in the sad tragedy that followed the death of the last male Tasmanian. I am loath indeed to write of it, but I must do so, as its results so gravely concerned him. Even into my own boyhood I have on many occasions heard the foregoing rhyme quoted. It was on March 3, 1869, that William Lanné died suddenly at "The Dog and Partridge" hotel, whence his body was removed to the General Hospital. He was just home from a whaling cruise on the *Runnymede*, and being of a simple, kindly nature, he was popular with all and a figure of much public interest. His burial was largely attended, with masters of whalers in port as pall bearers; on his coffin there was an opossum rug, as well as native spears and waddies. When on the morning after his burial his grave in old St. David's Cemetery was found to be open and the body gone, there was widespread horror at the desecration. Crowther, on hearing of Lanné's death, had formally applied to the Colonial Secretary for permission to remove the cranium for the Museum of the Royal College of Surgeons, and it was known that Dr. Agnew and others were fully as anxious to obtain the skeleton for the Royal Society of Tasmania. On receiving this request, the Colonial Secretary at once instructed Dr. Stokell, then resident at the hospital, that the body must be protected from any molestation. When it became known that on the evening before Lanné's burial Crowther and his son had visited the mortuary and had remained there for between one and two hours, suspicion fell upon him, and it was presumed that he had then removed the head. An inquiry by the hospital board was attended by the attorney general, and Dr. Stokell, the storekeeper and an attendant gave evidence. Crowther, although a full honorary medical officer and under suspicion, was not even called or represented. As a result, on March 8, 1869, he received the following communication from the premier, Mr. Dry:

Under the circumstances, until you are prepared to afford the Governor a satisfactory explanation, I am compelled to notify to you, your suspension as one of the Hon. Medical Officers of the General Hospital and to intimate to you that instructions have been given to the Hospital authorities debarring you from the privilege of visiting the Institution.

Crowther, in reply, was able to give the premier some startling facts. The removal of the body from the grave and its transportation in a sack by wheelbarrow to the hospital had been observed, and more than that, he himself, suspecting what was taking place, had broken down a door in the old part of the hospital and had found there the soft parts that had been removed in order to preserve the skeleton. The legal inquiry was a travesty; it was limited solely to facts concerned with the removal of the cranium, and no effort was made to bring to justice those who had actually broken the law by opening the grave and mutilating the body.

It is possible that Crowther took the skull for his friend, Sir W. Flower, and the Royal College of Surgeons. He certainly had nothing to do with the group who exhumed the body. His gravest fault was in implying that Dr. Stokell, whom he believed to be associated with the group that had exhumed the body, had also removed the cranium. His suspension from the hospital was a hard blow, but the plan to discredit him came to nothing. There was a tremendous swing of public feeling towards him when it was seen that, although he might have taken the cranium, he certainly was in no way connected with the much graver and more discreditable developments that followed the burial.

So, having fought a by-election on the issue and having been returned by a very large majority, he was honoured by a crowded meeting at the town hall, where he was presented with an address expressing full confidence in his conduct and thanks for the honorary services he had given during his years at the hospital. With part of the cheque then given to him was purchased a service of solid silver plate, which is still in use. For all this, however, these events meant the end of his services as a surgeon to the old hospital.

The Years that Followed.

During the forties and fifties, then, his position had been assured in a professional sense, and his family of eleven children had been born. From Campbell Street in about 1842 he had moved to Albert Terrace (Figure II), where all but one of his children were born and brought up. The house is quite unaltered and is in use today as the residence of the headmaster of the Hutchins School (in Crowther's day his friend, the then headmaster, Mr. Buckland, lived next door). The old garden with its cherry trees still runs the whole distance between Macquarie Street and Collins Street. Here he remained till his death over forty years later. My grandmother was, I think, never happy in Tasmania. She disliked intensely the constant rivalry and strife, with its contrast to her life in Europe, where her father had been Equerry to the Duke of Kent. But during these years her hands must have been full with seven sons and four daughters. Of the former, two died; three (Edward, William and Bingham) went successively to Guy's Hospital, and, after taking the diplomas of the Conjoint Boards, came home to Tasmania to practise medicine. Of the girls, two married in England; one became the wife of the master (Captain, later Sir Alex Walker, Baronet) of the full-rigged ship *Lord Templemore*, and spent her honeymoon on a voyage of 180 days between Liverpool and San Francisco. On the voyage the ship was dismasted and made port only with great difficulty. The other two girls eventually went back to England with my grandmother after the death of their father.

Political Life in the Middle Decades of the Nineteenth Century.

It is hard now to realize how vital politics were during the middle decades of the nineteenth century. Self-government had just been granted and the colony had innumerable problems to meet. Members of Parliament were not paid, and as the parties were evenly divided, they had to be constantly in the House during a session. The Press reported speeches carefully, and at length, and criticism and abuse in the rival newspapers were more than adequate.

Into this turmoil came a number of medical men, among whom were Dr. J. W. Agnew, Dr. W. L. Crowther, Dr. R. Officer and Dr. Henry Butler—a notable group, of which the two first-named were to lead as premiers, the others to hold the speakership of the House of Assembly. In all modesty it might be said that with the addition of a few other names, such as Kermode, Dry, Reiby and Giblin, they were the very eyes of the community. It should be remembered, however, that in our political world the inspiring movements of the fifties associated with the abolition of transportation and discovery of gold had given way to a period of depression. Personalities and family feuds obstructed legislation and impeded the legitimate development of the colony. In 1866, after another of the frequent political crises, the country turned instinctively to its old leader, Sir Richard Dry. Among the new members supporting him was Crowther, who on an election slogan of "Retrenchment or Ruin" had been returned as a member for Hobart, at the head of the poll. When the premier overlooked his claims to inclusion in his new ministry, Crowther resigned the seat. Three years later, however, he became a member of the Upper House, and the seat thus won he retained until his death. Once only in the intervening period did he have to contest an election. His opponent then (1876) was Mr. W. R. Giblin, a most outstanding man. The election was fought to a finish in the manner of the period—bands, banners, beer and intense excitement at the hustings. A comfortable majority confirmed Crowther's position as a leader, and he found himself on the way, first to ministerial office and then to the premiership. Giblin devoted himself to the welding of a disciplined party, with which he was later to form a stable and effective government.

When in 1876 the usual political crisis occurred, the Governor, Mr. F. H. Weld, sent for Crowther as leader of the opposition. His government, the first to be formed in the colony by a medical man, entered its precarious existence on December 20, 1876. From the start its position was an impossible one. In the House of Assembly it could maintain its majority of one only so long as it kept clear of the imposition of further direct taxation. In the Upper House, Crowther's position as premier was intolerable. Often he would spend hours fighting for one of his government's measures, only to find himself standing alone in a division. So small a majority made it impossible to introduce really effective measures, and the Press became more and more hostile. The government decided on a bold line of action, its principal objectives being the purchase of the main line railway between Hobart and Launceston, the purchase and completion of the Mersey-Deloraine tramway and a considerable extension of the main roads. All these were to be financed by the imposition of an income tax. W. R. Giblin introduced an amendment to increase the property tax before the imposition of that on income, and the government was defeated. Crowther asked for a dissolution, which was refused, and so ended the government. Thereafter, as a private member in opposition, Crowther's great influence was largely directed to matters concerning the administration of the local hospital and other medico-political affairs.

FIGURE II.

Macquarie Street sketched on August 23, 1843. Albert Terrace was just above the gum trees on the left of the picture.

Crowther's Scientific Interests.

Underlying Crowther's many activities was an intense interest in natural science and his environment. Mention has already been made of the collection he took to England, in the forming of which his mother had assisted by skinning many of the specimens. On the voyage of the *Emu* his journal records additions he made by the capture of sea birds. The ship passed the wild cliffs of the Antipodes in heavy weather, so it was impossible for the captain to carry out his conditional promise of landing Crowther on this sub-Antarctic island to add a new group of birds to his extensive collection. He was able, however, to add materially to it by snaring many sea birds when conditions were favourable. One albatross so obtained took him no less than six hours to skin, but the body, he notes, made good food for the Tasmanian devils and tiger cats. On another day, when the ship was "hove to" in a gale, practically under bare poles, he secured nine of these splendid birds, "one the admiration of the whole ship". Wet to the skin, at 6 p.m. he returned to his cabin, to be

flooded out of his bunk by a sea breaking his cabin window. He snared, too, by strands of thread, varieties of Cape pigeons, the skinning of which was most difficult, "they being a mass of fat and oil". The king penguin is noted as swimming beside the ship, as is the snowy petrel, of which he writes: "It was a most elegant bird, about the size of a dove of a most delicate snow white with a short pink bill and legs, I really think the neatest bird I ever saw." Of a blue and white petrel he observes: "I am obliged the first thing on catching these birds to cram their mouths with tow. It is cruel, but if I did not they would spue oil over everybody and everything, and that of the most offensive, spoiling their feathers as well." Later in the voyage he captured in the rigging, after a hard chase, swallows of a variety new to him, "white from the throat to the tail and feathered to the toes".

The collection of some 473 skins of birds and animals with the living fauna, as was stated earlier, were sold to the Earl of Derby, who was also the means of granting Crowther the great privilege of entry to the Zoological Society's garden on members' day (Sunday). On his return to Van Diemen's Land with a young family to support, the interests of his practice were paramount; but he was one of the original corresponding members of the Tasmanian Society, then newly formed by Sir John Franklin, for the study of natural science, which met regularly at Government House. Crowther found time, too, some years later, to join his friend, Mr. J. E. Calder, of the Survey Department, in an exploring and prospecting expedition to the then hardly known west coast. They reached the region of the Frenchman's Cap, with gold as their principal objective. Valuable specimens were found; but on the return journey flooded rivers had to be crossed, and in the process the labels on the specimens became indecipherable, and so the eventual results were valueless.

From 1840 to 1870 Crowther was engaged on a very congenial task and one that enriched the museum of his old college; it was the systematic collection of specimens of the Cetaceæ, which he was enabled to carry out by the cooperation of the masters of his whalers. These specimens embraced 34 catalogue folios and in classification eight genera of whales, and his gifts to the greatest museum of comparative anatomy in the world included no less than 15 full skeletons of whales, splendidly prepared and ready for articulation upon their arrival in England. Examples of his work varied from a preparation of the eye of the sperm whale to the complete skeleton of the same animal that used to dominate the main hall of the Royal College of Surgeons, and which with so much else was destroyed last year. He sent, too, the type skeleton of *Pseucorca crassidens* (the "False Killer") which Sir William Flower first described as *Orca meriodonalis* and a very large number of complete skeletons of the smaller members of the whale family (Scott and Lord, 1919). It was his custom to send with such specimens observations as to their habits and where on the whaling grounds they might be taken. In this manner he was of material help in building up an important section of the Museum of the Royal College of Surgeons.

One of the most interesting pieces of work for which he was responsible was a report on the liver fluke (*Distoma hepaticum*). This he presented in 1869, as Chairman of the Agricultural Committee to the Tasmanian Railway and Progress Association. Colonel Crawford, a member of the committee which prepared it, said: "It should go forth as Dr. Crowther's own." In it are described the life history of the fluke, its recognition in Tasmania and its subsequent spread. There are detailed suggestions as to the best measures, legislative and otherwise, to limit its spread and ultimately to eradicate it. Crowther traced a connexion between the heavy firing of the country by natives and stockmen in the early days and the freedom from loss by fluke or rot which then obtained. The infestation he attributed to the moist and rank herbage of the Central Lake and western runs, and its spread he traced to flocks returning from such areas to the country previously not involved. The report with its scientific and political recommendations is well worth study and is an outstanding piece of work for its period (anonymous report, 1869).

Mercantile Ventures: California, Timber, Whaling and Guano, 1850 to 1870.

It was the discovery of gold in 1849 in California that first turned Crowther's mind to spheres beyond his professional work, and in the ensuing thirty years we can trace almost logically the expansion of his interests from his timber mills to his ships, and then to the employment of the latter in whaling, in the widespread guano ventures, and in the opening up of a regular service between Hobart Town, the South Island of New Zealand, the Coral Sea and home again, as well as voyages as far afield as England and the Baltic. Early in 1850 he and a partner (Theodore Bartley) fitted out a ship, the *Eudora*, for San Francisco. It was laden with timber, houses (in frame), shop fronts and onions and potatoes, all most saleable there. Running short of water (there were eighty people aboard), the *Eudora* stayed at Tahiti for several days. At Honolulu part of the cargo was sold, and the rest was sold at San Francisco.

The timber from which the houses *et cetera* were constructed came from Crowther's own mills at Castle Forbes Bay. Although good timber was found there, the principal profit made was from the sale of the land when the timber was cut out, and some of the finest orchards in Tasmania are still located there. From the mills at his next location, Little Oyster Cove, he exported hardwood to the Baltic, to New Zealand, and nearer home to Port Phillip, with the sleepers for the first railway from Sandridge to Melbourne. These shipments were brought down from the hills on a wooden tram to his jetty and loaded for overseas on his own ships, the *Offley*, the *Elizabeth Jane* and the *Juno*.

The California venture was a great success. From the profits he bought a fast schooner, the *Surf*, and the remainder, in bags of gold dust, my father remembered seeing as a boy in the old safe in the surgery. The *Surf* in 1852 was sent to Valparaiso, returning with flour and bran and possibly ideas as to the profits derived from the sale of guano, then as now obtained from the Chincha Islands off the coast of Chili. This guano is the dried excrement of sea birds and is a most valuable fertilizer, comparable to the solid phosphatic rock found at Nauru and Ocean Island. Whatever the incentive, Crowther decided to try nearer home for this substance. The first venture was made in 1854, at the Lawrence Rocks off Portland, with the sloops *Scott* and *Flying Squirrel*. As he found only small amounts, which were shipped with danger and difficulty, his next attempt was at Mount Chapple Island at the other extremity of Bass Strait, and here again there was very little guano to be had. The sixties saw a far-reaching development. Crowther had by then a considerable whaling fleet at sea, including the ship *Offley*, the barques *Juno*, *Isabella* and *Sapphire*, the brig *Velocity* and the schooner *Elizabeth Jane*. Their masters were instructed to take whales on the various grounds, and when passing islands and reefs to land and collect samples of the surface for subsequent examination. Working systematically, he gradually opened up and developed a guano trade from Lady Elliot Island, Bird Island and Wreck Reef in the Coral Sea. He built and sent to explore the Pacific a small vessel of 22 tons named the *Marie Louise*, after his daughter. Her course was to Easter Island, almost to the American coast, north beyond the Equator and then home. As a result he obtained from the Home Government the leases of six more islands, including Christmas and Ducies Islands, now of great strategic importance. With the purchase of two more ships with such lovely names as *Montezuma* and *Northern Lights*, he actually inaugurated a regular service between Hobart Town, Dunedin (where gold had been discovered), his guano islands and home again. Of all these activities I have written more fully elsewhere (Crowther, 1938).

Of the whaling there is no space to tell. Over a long series of years his ships were constantly at sea; the smallest, the *Elizabeth Jane*, cruising off the South-West Cape, was the most successful. The *Sapphire*, too, was a fortunate ship, taking many sperm whales in the middle and western grounds. His greatest venture was to Kerguelen Island to take oil from the right or black whale and sea elephants. The *Offley*, *Elizabeth Jane* and

Flying Squirrel were dogged by ill fortune, the two smaller vessels being driven by constant gales and bad seamanship to Mauritius and Valparaiso respectively. The *Offley* mated for the season with an American schooner, the *Mary Powell*, which was eventually wrecked with all the oil. In all Crowther lost some £7,000 on the venture, of which with other happenings I have given more details in another place (Crowther, 1919). Gradually the use of kerosene made whale oil unnecessary and unprofitable, and his ships were sold. In the middle sixties he formed the Anglo-Australian Guano Company, which, after working the islands for a number of years, eventually abandoned them, when they reverted to the Home Government.

The Closing Years, 1870 to 1885.

With so many interests as well as his large practice, it is little wonder that early in the seventies Crowther sent for his son, Edward, then practising in Lincolnshire, who returned as surgeon on the *Sobraon*. He at once commenced practice from Hanby Villa a little farther up Macquarie Street and also entered political life. He has often told me of their routine at this period. By 6 a.m. he had walked down to Albert Terrace and prepared tea for his father and Dalwood, the groom. Whilst drinking this they would discuss the most pressing political and medical problems and decide upon the action to be taken. Then my grandfather would drive round, making an odd urgent visit as well as inspecting some of the many properties for which he was a trustee. This was followed by the early morning consultation period for the needy, of which I have already spoken. From breakfast to late afternoon, with an interval for midday dinner, my grandfather saw patients at his surgery or at their homes. The remainder of the day when the House was sitting was devoted to politics, and between sessions there was much to be done, with the inevitable Royal Commissions and party activities to be organized. In addition he spent much time in matters relating to the administration of the hospitals and invalid institutions. So when early in April, 1885, he became ill, he had little reserve strength. The end came on April 12, as a result of retention of urine, which was then attributed to the results of an injury sustained years before, when his horse stumbled in Goulbourne Street and he was thrown violently against the saddle. His passing meant much to the humbler people of Hobart and it was largely by their efforts that within a year or so a statue was erected to his memory (Figure III). I mention this, since not only was it an expression of the regard and gratitude of his friends and patients, but also, as a study over the years of the pages of our local Press will show, it is another proof of the wise observation of Pope, which I quoted at the opening of this address.

Crowther was a complex character; a man of few words, in many aspects of his medical and political life he was impulsive, hard and dour. Yet by his patients, many of whom are still alive, he is remembered as a man of profound sympathy and kindness, and their belief in his skill was absolute. Only a few weeks ago, sitting in the drawing room of an old colonial home, my patient told me how some sixty and more years ago, when she was ill in the early hours with diphtheritic croup, Crowther had been sent for. Her bed was then made up in the room in which we were talking, and she told me of his riding in at the gate and tying his horse to the tree still standing outside the french windows. While not remembering details of her treatment, she does recollect a few days later his pointers, Sancho and Rascal, who followed the gig, racing round to the kitchen at the back of the house to secure what food was available. For almost a century he, my father, my uncle and now myself, have had the privilege and delight of going in and out of this home as physician and friend. Surely such a legacy of trust speaks more for his character than any words I may try to write here.

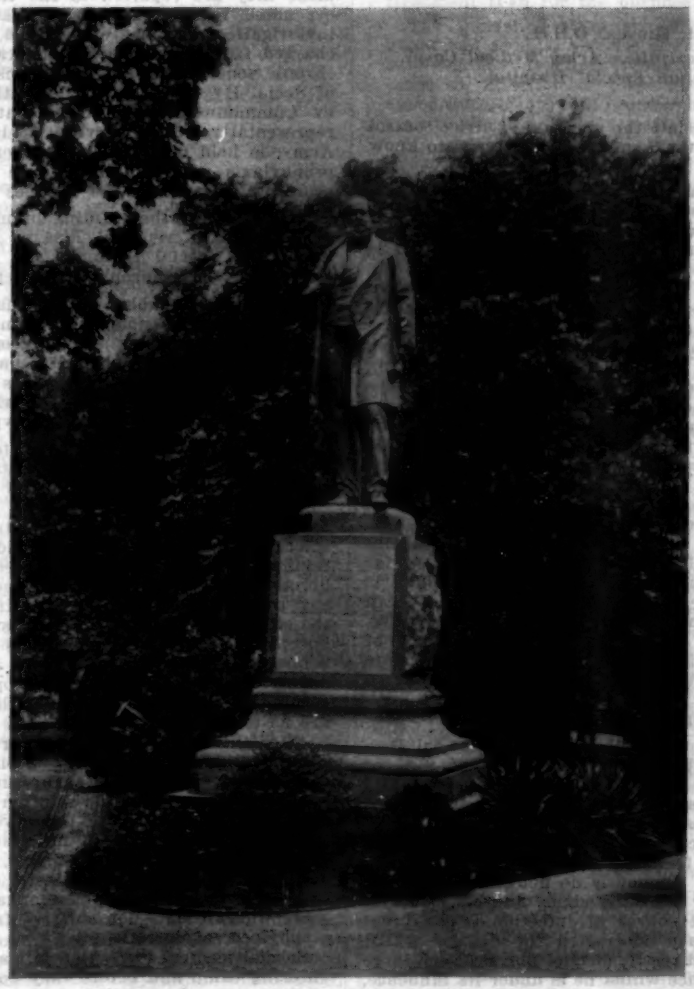

Figure III.
Statue to W. L. Crowther in Franklin Square.

Acknowledgements.

Once more I have to thank Miss Wayne for her kind help and suggestions, especially as to the early history of anæsthesia in Tasmania. Mr. J. Reynolds, too, was good enough to prepare an appreciation of the political factors, of which I have availed myself. For the rest, it has been a case of painfully amassing something here and something there in local papers and publications, parliamentary and otherwise. Finally I have drawn on the references which I have quoted.

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CONTROL OF VENEREAL DISEASE IN THE ARMY.[1]

By N. M. GIBSON, O.B.E.,
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IN order fully to appreciate the question of strict control over venereal disease in the Army, it is necessary to know the story as it affects a nation at war.

It is generally known that the incidence of venereal disease rises and falls in accordance with the times; for example, in times of prosperity, as well as in war time, when much money is in circulation and more alcohol is consumed, the incidence reaches its highest peak, and the contrary is true in times of depression. Then, again, when thousands of soldiers are separated from home influence, it is to be expected that there will be more venereal disease. During the last war, in 1917 more than 100,000 British soldiers were away from commands for a period averaging two months each—a loss of approximately 7,000,000 days of manpower. The French Army in 1916 had 25,970 cases of gonorrhœa in seven months and 8,834 cases of syphilis in eight months; experts estimated that syphilis would cost France 400,000 births a year, and that for every mobilized man infected with syphilis during the Great War, there would be in France, for the decade 1936-1945, one soldier less and one mother less. Armed with this knowledge, the Army at the outbreak of hostilities immediately made available the necessary facilities for combating the disease, with the result that, although it is not possible to state the precise incidence figure, one can rest assured that the incidence remains remarkably low. Unfortunately, one has to admit that the incidence of syphilis has increased since the outbreak of war—a state of affairs that was not unexpected.

SOURCE OF INFECTION.

Statistics prepared at the 120th Australian Special Hospital over the past eighteen months show that 85% of patients contracted their disease from amateur sources, and 15% from professional sources. It is obvious from these figures that the enthusiastic amateur is the great source of danger in this respect. The great tragedy lies in the fact that most infected females are genuinely unaware of the infection, since they frequently do not suffer from any particular discomfort or alarming signs, and consequently they remain a constant source of infection. The great majority of patients have contracted the disease whilst on leave in Sydney. Indirectly, alcohol plays a very large part in the causation, since whilst he is under its influence, the subject becomes careless and indifferent to risks and fails to take the necessary precautions.

PREVENTION OF VENEREAL DISEASE.

What is the Army doing about it? The following measures are taken.

1. Lectures are given by specialists to Army medical officers at the Army School of Hygiene and at the School of Public Health and Tropical Medicine. Lectures are also given to combatant officers and non-commissioned officers at the School of Hygiene, and they in turn are expected to impart this knowledge to troops of their unit. Regimental medical officers are instructed to give frequent talks on the subject to their own particular units, and the regimental medical officer, when interested, can do much to decrease the incidence of the disease. Articles have been published in the Army educational magazine *Salt*, written in non-technical language for the education of the soldier on the subject.

2. There is excellent liaison between the Army and the civil authority, and as a result, numerous sources of infection have been traced and brought under medical control. Some persons, undergoing treatment in civil life and not completely cured, either enlist or are called up for service. When these are known to be defaulters to treatment they are reported to the Army authority and are evacuated to the 120th Australian Special Hospital for investigation. On the other hand, when soldiers are discharged from the Army as medically unfit on account of chronic venereal disease, the fact is notified to the director of Social Hygiene, Board of Health. A meeting, attended by Commonwealth and State authorities, together with representatives of all services, including the United States Army, is held once a month, when the latest methods of prophylaxis and treatment are freely discussed and coordination between the services is obtained.

3. Schools for the training of medical personnel in the prophylaxis of venereal disease are held at the 120th Australian Special Hospital, and from these schools the staffs for various prophylactic depots are selected.

4. Condoms and blue light outfits are issued free from all prophylactic depôts and regimental aid posts only on application by troops proceeding on leave. The blue light outfit consists of two specially constructed tubes, one containing argyrol jelly (3%) as a protection against gonorrhœa, and the other containing calomel ointment (33%) as a protection against syphilis.

5. Prophylactic depôts, built to standard design and efficiently equipped, have been established in all standing camps and also in many country towns where there are concentrations of troops in the vicinity, as well as in Sydney. They are staffed by well-trained non-commissioned officers and are open night and day. No names or regimental numbers are recorded, for the reason that heretofore when such was the practice some soldiers were shy to enter. No prophylactic treatment is given when the soldier shows any suspicious signs of venereal disease, but in these circumstances he is reported to or paraded before his medical officer. Rules and regulations are laid down for the information of prophylactic personnel concerning sterilization and the details of the operation, which are as follows.

After the soldier has passed urine, an injection of five cubic centimetres of a 5% solution of agyrol is given into the anterior portion of the urethra, and this is held for three minutes. When the solution is voided, a teaspoonful of calomel ointment (33%) is given to the soldier to rub, under observation, into the glans, prepuce, penis and scrotum. This method is simple, fool-proof and effective, and is preferred in prophylactic depôts to the irrigation method with potassium permanganate solution, which is more difficult and not entirely free from the danger of staphylococcal infection.

Special medical inspection is made of all troops on their entering camp and before they go on draft, as well as at various times during their training. All soldiers suffering from purulent urethral discharge, from lesions of the genitalia or from any lesion giving rise to the suspicion of a venereal origin, are immediately evacuated to the 120th Australian Special Hospital with their "sick report" marked "N.Y.D.V.D." ("Not yet diagnosed venereal disease"). No attempt at diagnosis is made in the field, and no treatment is allowed to be prescribed in the field; otherwise the condition is frequently masked on the patient's admission to hospital.

GONORRHŒA AND NON-GONOCOCCAL URETHRITIS.

Army statistics in this Command show that the proportion of gonorrhœal to non-gonococcal urethritis is approximately 55 to 45.

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on August 27, 1942.

Diagnosis.

In all cases the smear specimen is carefully examined for the gonococcus or other organisms, and in some cases cultures are attempted. The gonococcal deviation, Wassermann and Kline tests are performed in each case. When purulent urethritis is present, the gonococcal deviation test is first reported upon fourteen days after the appearance of the discharge, and the test is repeated before the soldier is discharged from hospital. Should the smear specimen fail to contain gonococci and the gonococcal deviation test produce a positive result, the blood test is in all cases repeated. In many cases it has been observed that when examination of the smear specimen fails to reveal the gonococcus, the blood test repeatedly yields a positive result, and in these cases the lesion is generally discovered in the prostate gland or seminal vesicles; this is shown by numerous pus cells appearing on slides from material obtained by massage, or sometimes a stricture of the urethra may be present.

Résumé of Treatment.

The Sulphonamides.

The only contraindication to medication by the sulphonamides appears to be previous intolerance to the drug. At the present time the two sulphonamides in use in the Army are sulphapyridine and sulphanilamide; supplies of sulphathiazole are not yet available. The favoured method of administration is to give one gramme four times a day for five days. This course is sometimes repeated after a lapse of ten days. In 75% to 80% of cases the discharge disappears and the urine clears after the first course of treatment. In the remainder no permanent benefit is noted, and observation in these cases suggests that the cure is actually retarded. When there is no improvement after the first course, it is useless to continue with the drug unless the patient at a later date develops an acute posterior urethritis, in which case the drug is of value. Most observers will admit that the great majority of patients react well to sulphapyridine and that they present the picture of clinical cure after a period of ten days, in that there is no discharge, the urine is clear and even without threads, the prostate gland and seminal vesicles feel normal on palpation, and attempted culture from the urine from the material expressed by massage fails to yield the gonococcus.

In a series of 300 cases of first infections only, observed at the 120th Australian Special Hospital, it was found that in approximately 70% posterior complications developed, although the great majority of patients did not suffer from the usual symptoms of posterior urethritis, remaining more or less in a state of clinical cure, with no discharge and having urine free from pus. The massage specimens taken from the prostate gland and seminal vesicles contained numerous pus cells and in most cases the gonococcal deviation blood test gave a strongly positive reaction. Hence the treatment should not end with the completion of the sulphonamide medication.

Intolerance to Sulphapyridine and Sulphanilamide.—All patients suffer an intolerance in some degree—headache ranging from slight to severe, dizziness, vomiting and jaundice. Only one case of anuria has been observed at the 120th Australian Special Hospital, and this patient had received only two grammes of sulphapyridine. Fortunately, he quickly recovered by the intake of copious fluids. Intolerance is minimized if a mixture of fifteen grains of sodium citrate and five grains of sodium bicarbonate in a cupful of water is taken with each dose of the drug. When intolerance is severe, the medication should cease at once and large quantities of fluid should be prescribed. It is important in these cases to examine specimens of the blood.

Mechanical Treatment.

Except in hyperacute infection of the anterior portion of the urethra or acute and subacute infection of the posterior portion of the urethra, daily irrigation of the anterior portion of the urethra with potassium permanganate solution (1 in 8,000) is prescribed from the outset. Urethro-vesical lavage with the same solution is carried out in cases of chronic posterior involvement.

Irrigation of the urethra plays an important part in the treatment, mainly by providing gentle dilatation and thereby promoting effective drainage from the glands of Littré and preventing the formation of infiltrations.

Dilatation of the urethra with metal sounds is performed as a routine measure in all cases, for the above-mentioned reasons.

It has been abundantly proved that many patients treated by the sulphonamides alone develop infiltrations, some of these amounting to stricture formation.

The urethroscope is used nowadays rather as a guide to treatment than for the purpose of topical treatment.

The incidence of severe involvement of the prostate gland and seminal vesicles is small in patients undergoing sulphonamide treatment; but at the same time in many cases an infection of these glands develops without the appearance of any untoward symptoms, and these patients require a course of systematic massage.

Standard of Cure.

It is considered essential that a high standard of cure should be maintained, otherwise it is obvious that the incidence of gonorrhœa would rise rapidly. Unfortunately, the urge nowadays appears to centre around the question of the speed with which the disease can be cured and has little regard for a highly scientific standard of cure—and incidentally for the protection of our womenfolk.

The standard of cure observed at the 120th Australian Special Hospital consists of the following conditions: (i) There must be no meatal discharge after the urine has been held overnight. (ii) The urine must be clear and free from threads. (iii) Palpation *per rectum* must reveal no abnormality. (iv) Slides from material expressed by massage must not contain more than a few pus cells per one-sixth inch field (wet specimen). (v) The patient must have had some dilatation of the urethra. (vi) The gonococcal deviation blood test must produce negative results.

Many patients are discharged from hospital still giving a positive reaction to the gonococcal deviation blood test, provided that they pass the first five of the above-mentioned tests. These patients are directed to abstain from alcohol and from sexual intercourse and to return for a further blood test in three months. In the majority of such cases the blood fails to react to the test after this period. Should the blood react to the test on the patient's return to hospital, he is submitted to further treatment and observation. No patient is considered cured and fit for marriage until such time as the gonococcal deviation blood test fails to produce a reaction. If the significance of this test with regards to fitness for marriage was thoroughly understood by the medical profession, the incidence of gonococcal salpingitis would be considerably reduced.

Syphilis.

As has been stated earlier, the incidence of early syphilis is on the increase. The proportion of syphilis among the true cases of venereal disease admitted to the 120th Australian Special Hospital in 1941 was 4·5%, and in the past six months the percentage was 8·1%.

All soldiers in the Home Forces suffering from syphilis are discharged from the Army as medically unfit, since it is considered necessary for them to receive continuous treatment for eighteen months to two years. These patients are reported to the Director of Social Hygiene, and are instructed to report to their own doctor or to the Board of Health. Some of these soldiers have already enlisted again or been called up for service after having had a satisfactory course of anti-syphilitic treatment and being considered cured.

In the case of latent syphilis with no history of infection when the Wassermann test produces a positive reaction, the test is repeated, and the result is also confirmed in other laboratories.

Diagnosis.

Dark-ground illumination tests are performed in all cases when practicable, and a search is made for the *Treponema pallidum*; Wassermann and Kline tests are carried out at the appropriate time.

Treatment.

Intravenous injections of "Novarsenobillon" or "Neosalvarsan" or intramuscular injections of "Acetylarsan" are given, together with intramuscular injections of iodobismuthate of quinine ("Rubyl") or "Bismol".

When the lesions are healed and the soldier is rendered temporarily non-contagious, he is "boarded out" of the Army to civilian life.

THE PROPHYLAXIS AND TREATMENT OF VENEREAL DISEASE AT A PUBLIC CLINIC.

By J. COOPER BOOTH,

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VENEREAL diseases are preventible by the prompt use of suitable drugs after coitus or after any act likely to result in infection. Part of the programme of venereal disease control is to educate people to seek prophylactic treatment within a reasonable time. At the clinic controlled by the Department of Public Health of New South Wales, prophylaxis for males is available for twenty-three out of the twenty-four hours each day. A solution of potassium permanganate (1 in 6,000) is used as an irrigating fluid for the anterior portion of the urethra, and calomel ointment is applied to the skin of the external genitals and to adjacent parts. The irrigation serves to combat gonococcal infection and the ointment to prevent syphilis.

"Argyrol", "Protargol", or silver picrate solution may be used instead of potassium permanganate solution; but these are expensive as compared with the last-named, and in a well-conducted clinic with trained nursing attendants their use is a luxury. When prophylaxis is self-administered and unsupervised, or when there is danger of carelessness in sterilization methods, the first-named preparations are preferable.

In recent literature a suggestion, supported by a series of over a thousand treatments, has been made that sulphathiazole, in a dose of two grammes followed in five hours by a further two grammes, may be useful for a late prophylactic treatment. No injection is given into the urethra, but calomel ointment is used externally. The results appear to have been excellent in cases in which this method of treatment has been carried out on the day following exposure to infection.

Four venereal diseases come under notice for treatment at the clinic: gonorrhœa, syphilis, venereal warts and chancroid.

With regard to any infection, accurate diagnosis is essential before intelligent treatment can be given, and this is particularly important in suspected syphilitic infection. It is unpardonable to commence treatment for syphilis unless (i) a dark-field examination of serum from a sore discloses the presence of *Treponema pallida*, or (ii) a serological test indicates the presence of syphilis, or (iii) the clinical picture gives unmistakable signs of established and progressive infection.

Treatment for syphilis, once commenced, must be continued to cover the full period accepted as essential in a proved infection.

Gonorrhœa.

The introduction of the sulphonamides has removed much of the discomfort from gonococcal infection. There are two methods of treatment, one in which urethral irrigation with sulphonamide therapy is carried out from the beginning, and another in which irrigation treatment is delayed until chemotherapy has failed to produce results within a reasonable time.

Our clinic follows the latter method, and irrigation is used only when the urethral discharge persists after five days. We find that in about 80% of cases of gonococcal urethritis irrigation is unnecessary. It has been held that irrigation is useful in preventing infiltration in the anterior portion of the urethra and that the stretching of the walls during irrigation assists in the resolution of fibrous tissue. I doubt whether this is so, and I believe that the urethra should be interfered with as little as possible, unless there are strong indications for action. Whatever infiltration due to the reaction to infection may be present, it is natural and transitory in the vast majority of cases.

The sulphonamide in most common use is sulphapyridine ("M & B 693"), and the usual dose is one gramme three times a day for five days followed by 0·5 gramme four times a day for five days.

Urethral discharge generally ceases within forty-eight hours; but treatment is continued for the full period of ten days. The patient drinks water freely during this period, to guard against the deposition of crystals of acetyl sulphapyridine in the kidney.

When the urethral discharge still persists at the fifth day of treatment, irrigation of the anterior part of the urethra every day with potassium permanganate solution (1 in 6,000) is added to the treatment and frequently aids in clearing up the condition by the tenth day. When the urethral discharge persists, the irrigation is continued after the tenth day, when the course of sulphonamide treatment ceases, and is carried out as a routine measure until the discharge ceases. If the discharge is still present after two weeks of irrigation in which no sulphonamide has been given, the sulphonamide treatment is tried again as in the beginning, but accompanied by irrigation.

Gonococcus vaccine is given to some patients between the courses of sulphonamide treatment. The initial dose is 200,000,000 gonococci and is increased by 200,000,000, given every second day, until a dose of 1,000,000,000 has been reached. This is occasionally of value.

For those patients who respond satisfactorily, tests of cure are commenced as soon as the sulphonamide treatment ceases. A straight sound is passed and the anterior portion of the urethra is gently massaged against it. The anterior portion of the urethra is irrigated before and after the passage of the sound. After an interval of one week, and if there has been no sign of relapse, a curved sound is passed. After the interval of another week, and if there is still no sign of relapse, the prostate and vesicles are massaged and the expressed fluid is examined microscopically. Three such smears are examined at intervals of four days and should not contain more than four or five pus cells per 1/6 field. If these tests fail to disclose the presence of disease, and if the serological tests reveal no evidence of syphilis and gonorrhœa, the patient is discharged from the clinic. If the serological test produces evidence of Neisserian infection, and if search and provocative treatment fail to disclose a focus or to cause a relapse, the patient is asked to report for a further test in three months' time. I have seen some patients continue to react for two years to serological tests for Neisserian infection, although the presence of gonococci could not be demonstrated.

The complications of gonococcal infection are less common now that chemotherapy is used. Patients in need of bed treatment pass from the clinic to hospital in-patient care, and those who do not require in-patient treatment rest at home and carry out instructions given from the clinic.

Epididymitis.

Epididymitis does not appear to be so frequent or so acute as in the days of treatment by irrigation. Patients with the condition in an acute form are put to bed, the testicles are supported and belladonna and glycerin are applied or a hot saturated solution of magnesium sulphate is used as a foment. "Antiphlogistine" is also useful.

Protein shock therapy ("Aolan", or ten cubic centimetres of milk boiled for four minutes and given intramuscularly) or "Cylotropin" given intravenously early in the condition in a dose of five cubic centimetres are helpful when the patient needs treatment in bed. When the condition has subsided prostatic massage is given twice a week for two or three weeks, and the testicles are supported by a T bandage or an athletic support. Potassium iodide may be useful in clearing up infiltration in the epididymis. Irrigation of the posterior portion of the urethra is carried out after the acute condition has subsided.

Acute Posterior Urethritis.

Acute posterior urethritis proceeding to acute prostatitis is uncommon. Sandalwood oil is useful in early acute posterior urethral infections and is given in a dose of 20 minims three times a day for two days. Smaller doses are of little value.

When acute prostatitis develops the patient is better in bed. Hot rectal injections and sitz-baths are useful, and a suppository of morphine (one-sixth of a grain) and belladonna may be necessary to relieve pain. Prostatic abscess may cause retention of urine, and sometimes the abscess ruptures during rectal examination. On occasions it is permissible to pass a curved sound or metal catheter, in the hope that rupture of the abscess will occur.

Gonococcal Ophthalmia.

Patients suffering from gonococcal ophthalmia are best treated in hospital. The unaffected eye is protected with a watch glass. Four grammes of sulphapyridine or sulphathiazole are given at once, and one gramme is given every four hours afterwards. This treatment is continued for twenty-four hours after apparent cure has occurred.

The conjunctival sac is irrigated with cool boracic acid solution every four hours, and a 25% solution of "Argyrol" is instilled after each irrigation. When the eye is clean and free from gonococci, the treatment is changed to instillation of zinc sulphate solution (two grains to the ounce) three times a day for one week. If the cornea has become involved a 1% solution of atropine sulphate is used (one drop three times a day). If sulphonamide therapy fails, protein shock treatment may be tried, or "Collosol Manganese" may be given every third day, the dose at first being 0·5 cubic centimetre and increasing to 1·5 cubic centimetres.

Gonococcal Arthritis.

Patients with gonococcal arthritis are best treated in bed in hospital. Treatment with hot air, diathermy, protein shock, "T.A.B." vaccine (in a dose of 120,000,000 to 200,000,000 organisms every five days according to fever reaction) and artificial fever may be tried. Care is necessary not to contribute to the stiffness of a joint by rigid splinting. The affected joint should be moved passively as soon as possible and the surrounding muscles massaged, and the patient should be encouraged to move the joint himself. Massage of the prostate and vesicles is essential.

Aims of Treatment.

Treatment of gonorrhœa aims to achieve the following objects: (i) absence of urethral discharge; (ii) freedom of the urine from any débris; (iii) absence of gonococci after massage or the passage of sounds; (iv) no more than four or five pus cells per 1/6 field in a smear from material obtained by prostatic and vesicular massage; (v) no reaction to complement fixation test for Neisserian infection and to the Wassermann and Kahn tests. When all these requirements have been satisfied treatment ceases and the patient may be considered cured. Some clinics also require that the gonococcus cannot be grown from any of the material expressed from the prostate and vesicles.

Syphilis.

For the treatment of syphilis a trivalent arsenical is the one of choice at most clinics and in private practice, and neoarsphenamine was used at our divisional clinic in the early months of its operation. Seven intravenous injections of neoarsphenamine were given in doses of between 0·3 and 0·6 gramme per week, according to circumstances, and this course was alternated with a course of twelve intramuscular injections of a suitable bismuth preparation.

The small staff and the rapidly increasing number of patients attending the clinic made intravenous treatment difficult to carry out within the time available, and a recasting of method became essential. A satisfactory arsenical for intramuscular use was sought.

For the past nine years we have used "Acetylarsan" in the treatment of syphilis, and the results have so far been satisfactory. It is a pentavalent arsenical preparation given intramuscularly, and each cubic centimetre is equivalent to 0·05 gramme of arsenic. To date the results of treatment indicate that the effect on the disease is the same as that of a trivalent preparation, and in early syphilis cure appears to be achieved in practically all cases in which the scheme of treatment is completed.

The scheme of treatment in early syphilis is as follows:

"Acetylarsan" is given in a dose of two cubic centimetres as soon as the diagnosis has been made. Two days later two cubic centimetres of bismuth salicylate in oil are given intramuscularly. The following week three cubic centimetres of "Acetylarsan" are given and followed two days later by two cubic centimetres of bismuth salicylate in oil. After this three cubic centimetres of "Acetylarsan" are given twice a week until a total of 47 cubic centimetres has been given. This course is followed by twelve injections, one each week, of two cubic centimetres of bismuth salicylate in oil (or of some other bismuth preparation), to be followed in turn by "Acetylarsan", which is now, and in future courses, given in doses of three cubic centimetres twice a week to a total of 48 cubic centimetres without the introductory buffer of bismuth.

Before treatment is commenced every patient should have a complete physical examination and the teeth should be in good repair. Before each arsenical injection the patient should be examined for any œdema of the eyelids or signs of dermatitis, bleeding gums, jaundice or any petechiæ, and should be questioned as to his reaction to the previous injection. The urine is tested for albumin before each injection. Toxic reactions are uncommon with "Acetylarsan", though we have had two cases of hæmorrhagic encephalitis.

Jaundice may be noticed during treatment, but it usually clears up rapidly under cautious small dose arsenical therapy. It may be a complication during a course of arsenical treatment, and all possible causes other than treatment must be weighed and discarded before treatment is blamed. Arsenical treatment should be stopped in the presence of progressive jaundice and bismuth therapy should be substituted; but arsenicals may be tried again, cautiously, after the disappearance of the jaundice.

Calcium gluconate (ten cubic centimetres of a 10% solution) or glucose alone given intravenously has been said to be helpful.

Stomatitis may be either mild or severe. The bases of the upper or lower central incisors are common sites. If the condition is mild, treatment may be continued, the mouth being kept clean and the teeth in good condition. In severe cases the bismuth therapy should be stopped and injections of 0·5 to 1·0 gramme of sodium thiosulphate ("Ametox") should be given.

The standard of cure in syphilis, diagnosed early in the infection, is satisfied when blood drawn from the patient fails to react to the Wassermann and Kahn tests on several consecutive occasions, spaced over one year of continuous efficient treatment, and when an examination of the cerebro-spinal fluid at the end of this period gives no indications of syphilis.

In late syphilis the objective is to arrest damage and protect the patient against physical or mental breakdown rather than to achieve "negative" serologic findings. In such cases, if the cerebro-spinal fluid examination is satisfactory, and regardless of a "positive" blood reaction to tests for syphilis, treatment may be stopped after three years. The patient is then examined once a year for

signs of progressive damage. Some authorities favour a short course of bismuth injections each year in these cases.

Chancroid.

Chancroid responds well to sulphonamide treatment. Sulphapyridine or sulphathiazole is given in a dose of one gramme three times a day. The average total dose does not exceed 42 grammes and the average time for cure is about fifteen days.

Buboes respond well to this treatment and seldom need incision. In cases in which the response is unsatisfactory "Dmelcos" may be tried, but for this the patient should be put to bed.

Iodoform as a powder is a satisfactory local dressing, and powdered sulphanilamide is also useful.

A blood test for syphilis is carried out as a routine measure before the patient is discharged from care.

Venereal Warts.

Venereal warts respond well to the application of a solution of equal parts of *Tinctura Ferri Perchloridi Fortis* and *Liquor Epispasticus*, the surrounding area being protected with "Vaseline". After treatment the area is dusted with "B.F.I." powder or lycopodium. After the venereal wart has come away the raw base is touched with Mill's paint.

URETHRITIS IN THE MALE.

By V. N. B. WILLIS,
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A STUDY of fifty consecutive cases of urethritis admitted to a Royal Australian Air Force special hospital illustrates some changes that have taken place within the last few years in the clinical characteristics of this complaint.

Table I was compiled by careful examination of the records, starting about June 30, 1942, and counting backwards until the fifty cases had been obtained. All patients who gave a history of any previous infection or had been under treatment before admission to the hospital were excluded. We are, therefore, dealing only with cases of primary urethritis brought about by sexual intercourse.

The smears of the urethral discharges, taken before treatment had commenced, were all stained and examined by myself. The results were as follows:

TABLE I.
Fifty Cases of Urethritis.

Condition.	Number of Cases.	Percentage.
Gonorrhœa—		
Class I (pus and gonococci)	19	38
Non-Gonorrhœa—		
Class II (pus only)	15	62
Class III (pus and other organisms)	16	

The other organisms in Class III were the following:

Gram-positive bacilli	7
Gram-negative diplobacilli	2
Gram-positive bacilli and Gram-negative bacilli	2
Gram-negative diplobacilli and large Gram-negative cocci	1
Gram-positive diplococci (intracellular)	1
Gram-positive diplococci and Gram-positive bacilli	1
Gram-positive cocci	1
Gram-negative bacilli	1
Total	16

All the slides in Class I contained gonococci only, except one, which also contained Gram-negative bacilli.

This result seemed to me very different from what I could remember of such cases during the last war, and the difference was confirmed when I looked up some old records from the First Australian Dermatological Hospital, Bulford, England. Here I found that during one month in 1919, 95·6% of patients admitted to hospital suffered from gonorrhœa and 4·4% from catarrhal urethritis. Then, as my series was small, by permission of Captain G. Hayes I examined the entries for the last few months in the admission book of the Ninth Australian Camp Hospital; I found that 35·6% of patients suffered from gonorrhœa and 64·4% from urethritis. These figures are very close to my own, which were as follows: 38% of patients suffered from gonorrhœa and 62% from urethritis.

In the light of these figures, certain questions naturally arise.

Firstly, were all the cases in 1919 really gonorrhœa? They were; all slides in this venereal diseases hospital were stained with Gram's stain and examined by a competent pathologist in exactly the same way as today.

The second question is, how often are slides examined today in each case? The answer is, once as a rule.

The third question is, would repeated examination of slides in Class II not reveal some organisms? I do not think they would; in hospital it is always possible to take the first slide under the best conditions—that is to say, when the patient has held his urine for three or four hours. If repeated examinations were to be made, it would be necessary to delay starting treatment, which is not desirable. In certain cases, however, in which slide examinations have been repeated during treatment, the results were always the same, both in Class II and in Class III. In the cases in which no organisms are found at the start, none ever appear during treatment.

The fourth question is, would more careful examination of the slides reveal any organisms? To this I can only say that all slides were most carefully examined.

Results obtained by other workers would be most welcome in confirmation of my results.

I have been treating urethral infections continuously since 1918, and it is only within the last two or three years that I have noticed this increase in the number of cases of urethritis (non-gonorrhœal). The change has come about since the universal adoption in treatment of the sulphonamide group of drugs. When reports were first made public in 1937, it seemed that at last a drug had been discovered which would stamp out gonorrhœa completely. These drugs have been well tested since the present war started, and obviously gonorrhœa is still with us.

I am at present unable to obtain any statistics showing what proportion of Service men have contracted gonorrhœa. My impression is that it must be very much smaller than during the war of 1914-1918; but, as Table I shows, for every case of gonorrhœa there are two cases of urethritis (non-gonorrhœal). If we multiply the present number of cases of gonorrhœa by three, will the total be the same as the percentage of infections in the last war?

Now let us deal with each class in turn:

Class I: Acute Gonorrhœa.

I have found that the incubation period in acute gonorrhœa has lengthened considerably, two or three weeks being more common than the previous two or three days. In these fresh infections the gonococci are found in pure culture; in only one case in the above-mentioned series were Gram-negative bacilli as well as gonococci present. This was due to balanitis, which probably caused the double infection of the urethra.

Class II: Acute Urethritis with Pus Cells Only.

How can we explain cases of acute urethritis in which pus cells only are found in slides? Perhaps the patients had taken "M & B 693" tablets before their admission to hospital. This would, of course, account for the negative findings. I feel quite sure that this was not the case in my series, for three reasons: (i) The patients all denied taking any tablets. (ii) The tablets are difficult to obtain

without a prescription. (iii) The majority of the patients were young and had never heard of the tablets. The only suggestion I can put forward is that the woman who infected the patient may have been treated with one of the sulphonamides; her acute symptoms will have subsided, but the drug will not prevent her from being still infective. Perhaps the gonococcus has taken on a new ultra-microscopic form, or (going further than this) perhaps a new invisible form of the gonococcus has appeared in the community, due to the large number of patients who have been treated with these drugs. They may have caused the microbe to alter its outward form. In other words, all cases in this Class II may really be cases of gonorrhœa. The infections are certainly acquired in the same way.

Class III: Pus and Various Organisms Other than Gonococci.

Cases in which pus and various organisms other than gonococci are present were rare before the introduction of the sulphonamides. They make up 32% in my series. All the organisms are usually in pure culture and are often intracellular; hence mistakes in diagnosis may occur if the slides are not carefully counter-stained. They are not like slides taken in old cases of gonorrhœa, which are usually described as containing abundant mixed secondary organisms. Possibly the sulphonamides in the infected female have caused the gonococci to disappear, but have rendered infectious to the male other normally harmless inhabitants of the genito-urinary passages.

It should be possible to grow these organisms on culture, but even if this were done, it would not help us to find out why they have caused acute urethritis when planted in new soil.

Discussion.

The foregoing are my own speculations. The facts are that we are dealing with cases of acute urethritis coming on after sexual intercourse.

They are "infections" in the true sense of the word, and are capable of being passed on in the same way by the male to another female. They must not be regarded as perfectly harmless just because gonococci are not found, and they most certainly require to be cleared up if future ill health is to be avoided.

The same standard of care is necessary in all cases of urethritis, whatever the cause.

Many patients in private practice with obvious urethral discharges and abundant small pus threads in their urine say they have been examined for gonorrhœa with negative results, and have been told either that it was "a strain" and of no importance, or that it would disappear after they had taken a few tablets, and that they could then get married without any risk. Such statements are unwise, as, of course, the patient comes within Class II or Class III. Many of them are definitely infective, as the following history shows:

A male patient, aged twenty-four years, was examined in January, 1942. His small amount of urethral discharge contained abundant pus and small Gram-negative diplobacilli. The urine was clear, but contained many pus threads. On rectal examination of the *vesiculæ seminales*, tenderness was present on the left side, and the expressed fluid contained abundant pus cells and diplobacilli. (The slides were checked by Dr. C. G. Taylor, who tried without success to cultivate the bacillus).

The patient gave a history of a first attack of urethritis six months previously. Four slides were examined, but were reported to contain no gonococci; obviously he belonged to Class II or Class III. He was given a few "washouts", one massage and some "M & B 693" tablets and his discharge stopped. Although he felt slight discomfort at times, he thought it quite safe to get married in view of the foregoing examinations and treatment. From the history, his wife was a virgin. When he came to see me two months later, she was in hospital, where next day she underwent an operation for pus in both Fallopian tubes. The result of his Gram-negative diplobacillus infection could not have been more serious had he suffered from gonorrhœa. The infection, which was in his vesicles, took about three months to clear up completely.

Conclusion.

I have tried to show in this article how the clinical findings in cases of acute urethritis have altered since the introduction of the sulphonamides in treatment. These drugs have been the greatest advance in therapy in the past twenty-five years. They have simplified treatment, shortened the course of the disease and lessened complications, but there is still much work to be done in this branch of medicine.

I have also tried to show that the large percentage of patients with non-gonorrhœal urethritis have acquired infections, that they are dangerous to others, and that they require the same care and treatment as patients suffering from gonorrhœa.

In conclusion, I wish to stress once more the seriousness from a national point of view of these cases of "non-gonorrhœa", and the difficulties which would lie ahead if similar figures were to be obtained from a female clinic.

Acknowledgement.

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GASTRIC AND DUODENAL ULCERS IN SOUTH AUSTRALIA.

By J. B. CLELAND, M.D.,

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IN the *British Medical Journal* of November 29, 1941 (page 780), B. M. Nicol gives an account of the relative incidence of gastric and duodenal ulcers, more particularly in the British Isles. Referring to hospital patients, he finds that "the ratio of duodenal to gastric ulcers (male and female) in London is 1 to 1, in Leeds 2·8 to 1, and in Scotland from 6·8 to 8 to 1". He quotes statistics from the United States of America, from Paris and from Pekin, which all show a much higher incidence of duodenal than of gastric ulcers. Only in the London figures do the duodenal ulcers fail to exceed the gastric ulcers.

On account of the system in use for the last twenty-two years at the Adelaide Hospital and at Parkside Mental Hospital for tabulating all the important lesions found at autopsies under each item concerned, the results in 5,000 South Australian post-mortem examinations were readily available for comparison with Nicol's figures. The assembling of these has revealed the remarkable fact that in this State gastric ulcers greatly preponderate over duodenal ulcers, whether we consider only actual ulcers found at autopsy or add to these the scars of healed ulcers. The figures in Tables I and II show that there were 110 gastric ulcers to 70 duodenal ulcers, or if the scars are added, 123 gastric ulcers to 84 duodenal ulcers. The post-mortem results at the Adelaide Hospital have been tabulated and are later published a thousand at a time, beginning with 1920, each thousand representing a period at first of about five years, but now approaching three. The smaller figures for the fifth period are due to the fact that only about 570 autopsies have as yet been tabulated (the total for that institution is thus 4,570). As the records of 500 autopsies performed at the Parkside Mental Hospital over the same period of twenty-two years were available, these have been included, to make a grand total of 5,070 (and not 5,000 exactly). An examination of the figures shows that not only in the whole series, but for each period of about five years, in females as in males, the number of gastric ulcers exceeds that of duodenal ulcers. There has been no change in relative incidence over the twenty-two years. It will also be noted—and this may be important—that at ages under fifty years the gastric and duodenal ulcers are about equal in incidence, but at ages over fifty years there is a rapid increase in the incidence of gastric ulcers.

TABLE I.
Gastric Ulcers.[1]

Group.	Age Group. (Years.)									Total.
	"Teens."	20's.	30's.	40's.	50's.	60's.	70's.	80's.	Age Unknown.	
Males—										
First thousand	—	—	1	1	3	4	2	1	1	13
Second thousand	—	1	1 (2)	4	3	4 (5)	3	—	—	16 (18)
Third thousand	—	1	—	2	5 (6)	6 (7)	2	1	—	17 (19)
Fourth thousand	—	—	1	1 (2)	9	4 (5)	3	2	—	20 (22)
Fifth thousand (570)	—	—	—	4	4 (5)	2	3 (4)	1	—	14 (16)
Mental hospital (500)	—	—	1	4	1	3	(1)	—	—	9 (10)
Total	—	2	4 (5)	16 (17)	25 (27)	23 (26)	13 (15)	5	1	89 (98)
Females—										
First thousand	—	—	2	1	—	—	(1)	—	—	3 (4)
Second thousand	—	—	—	2	2 (3)	—	—	—	—	4 (5)
Third thousand	—	—	—	—	3	1 (2)	1	(1)	—	5 (7)
Fourth thousand	—	—	—	—	—	2	—	—	—	3
Fifth thousand (570)	—	—	—	1	1	3	—	1	—	5
Mental hospital (500)	—	—	—	—	1	—	—	—	—	1
Total	—	—	2	4	7 (8)	6 (7)	1 (2)	1 (2)	—	21 (25)
Grand total (5,070)	—	2	6 (7)	20 (21)	32 (35)	29 (33)	14 (17)	6 (7)	1	110 (123)

[1] The figures in parentheses represent the totals for open ulcers and scars of old ulcers together.

TABLE II.
Duodenal Ulcers.[1]

Group.	Age Group. (Years.)									Total.
	"Teens."	20's.	30's.	40's.	50's.	60's.	70's.	80's.	Age Unknown.	
Males—										
First thousand	—	1	—	3	(1)	1	1	(1)	—	6 (8)
Second thousand	1 (2)	—	2 (4)	(3)	—	1 (3)	1 (2)	—	—	3 (14)
Third thousand	1	—	—	5	4	2 (3)	2	—	—	14 (15)
Fourth thousand	—	1	1	3	5 (6)	6	2	—	—	18 (19)
Fifth thousand (500)	—	—	1	3	1	5 (6)	1	1	—	12 (13)
Mental hospital	—	—	—	1	2	—	1	1	1	6
Total	2 (3)	2	4 (5)	15 (18)	12 (14)	15 (19)	8 (9)	2 (3)	1	61 (74)
Females—										
First thousand	—	—	1	—	—	1	(1)	—	—	2 (3)
Second thousand	—	—	—	1	—	—	—	—	—	1
Third thousand	—	—	2	—	—	2	—	—	—	4
Fourth thousand	—	—	—	—	—	—	—	—	—	0
Fifth thousand (500)	—	—	—	—	—	—	—	—	—	0
Mental hospital	—	—	1	—	—	—	1	—	—	2
Total	—	—	4	1	—	3	1 (2)	—	—	9 (10)
Grand total	2 (3)	2	8 (9)	16 (19)	12 (14)	18 (22)	9 (11)	2 (3)	1	70 (84)

[1] The figures in parentheses represent the totals for open ulcers and scars of old ulcers together.

The preponderance of peptic ulcers in men is strikingly shown; there were 150 open ulcers in males to only 30 in women—a proportion of five to one. The sex ratio of gastric ulcers is about four males to one female, and that of duodenal ulcers is about seven males to one female. The small number of open duodenal ulcers in women is indeed striking. In the subjects of our post-mortem examinations there are approximately three males to two females, so that the figures mean that there were only nine ulcers (or ten, if scars are included) in about 2,000 post-mortem examinations on women, whereas there were 61 (or 74, including scars) in about 3,000 post-mortem examinations on males. The totals of 180 peptic ulcers, or 207 ulcers and scars, give percentages of 3·5 and 4·1 respectively on all the autopsies.

In the gastric ulcer cases, the tabulated results show that 58 of the 110 subjects, or just over 50%, died as a result of this condition. In 23 instances death was directly or indirectly due to hæmorrhage, examples of death from the indirect effects being from the profound anæmia resulting from the hæmorrhage, or in one case from syncope from sitting up. In 20 instances death was due to the more immediate effects of rupture, hæmorrhage in some instances being probably a contributing factor. Four subjects died from subphrenic or other peritoneal abscesses, six after gastrectomy or gastro-enterostomy and one from massive pulmonary embolism; in four instances death was due to the ulcer, but the exact cause was not tabulated.

In the duodenal ulcer cases, 42 of the 70 subjects, or 60%, died as a result of this condition. Hæmorrhage or its effects accounted for 12 deaths, the more immediate effects of rupture for 22, subphrenic or peritoneal abscesses for 4; in three cases death followed gastro-enterostomy and in one the exact cause was not tabulated.

Dr. R. J. Wright-Smith, in 1937, in an article entitled "Peptic Ulcer: An Analysis of 218 Cases Studied at Autopsy" (THE MEDICAL JOURNAL OF AUSTRALIA, December 11, 1937, page 1027) has given an excellent account of an analysis of 218 such ulcers met with during the course of 4,085 autopsies at the Royal Melbourne Hospital. There were 112 gastric ulcers (97 chronic, 5 subacute and 10 acute), 98 duodenal ulcers (95 chronic and 3 acute) and 8 cases in which both gastric and duodenal ulcers were present. In 85 of the 112 gastric ulcer cases and in 70 of the 98 duodenal ulcer cases, death was attributable to these conditions. Though the number of autopsies was

nearly a thousand less than mine, the number of gastric ulcers (112) was practically the same (110). The number of duodenal ulcers (98) was higher than mine (70). Dr. Wright's figures do not extend back so far as mine, and this fact may in part explain the difference. Nevertheless, it would appear that in Melbourne peptic ulcers are more common than in Adelaide, and that, whilst gastric ulcers still preponderate, duodenal ulcers are commoner than in Adelaide, both relatively and absolutely.

The Lesions Found Elsewhere in Association with Peptic Ulcers.

In our method of tabulating post-mortem results, all the other lesions of importance that are present appear in the summary placed under each item. It is thus easy to ascertain what other conditions were met with in association with the gastric and duodenal ulcers. It was thought that a survey of these might reveal some unexpected association that might be of value in elucidating the ætiology of these ulcers. For instance, it was thought that infections elsewhere might play some rôle. Cardiac conditions, in which ante-mortem clots might occur in the left auricle or ventricle, might lead to small infarcted areas in the stomach. It has been suggested that lesions in the brain are unduly frequently associated with peptic or especially duodenal ulcers; but antecedent mental stress or worry would not, of course, be revealed in these tabulations. Unfortunately my analysis does not reveal any other lesions elsewhere occurring so frequently as likely to be associated directly or indirectly with the development of our peptic ulcers. This is shown by the following classification of these other lesions.

Gastric Ulcers (110 Cases).

Vascular Lesions.—Hypertrophied and dilated hearts with congestive failure were present in nine subjects (the youngest a male, aged forty-six years); mitral stenosis was present in two; syphilitic aortitis was present in two (and a gastric scar in a man with aneurysm); coronary disease and its consequences were present in four (all well over fifty years of age); atheroma and ulceration in the aorta, so situated as possibly to have been the source of emboli, were present in two.

Infections.—In thirteen instances infections were present, and it is possible that significance may be attached to some of them; but doubtless others were acquired after the ulcers had developed. Abscesses in the prostate and kidney may possibly have had something to do with the occurrence of a gastric ulcer in a man, aged twenty-two years. Two subjects had old empyemata; a woman, aged forty-five years, had bacterial endocarditis of the mitral valve, with infarcts and incipient gangrene of the nose; a man, aged eighty-three years, had streptococcal orbital cellulitis; a man, aged thirty-six years, had a perinephric abscess; a woman, aged fifty-six years, with a healed ulcer, had an abscess in the sternum, infection of the middle ear and an abscess in the brain; a man, aged seventy-six years, had pneumococcal meningitis secondary to a sinus infection; and so on.

Tuberculosis.—Nine subjects had pulmonary tuberculosis, one of whom had only a scar; three others had tuberculosis elsewhere. The percentage incidence of pulmonary tuberculosis alone in the 5,070 autopsies was 6·2, and this does not include slight lesions.

Respiratory Lesions.—Two subjects had fibrosis of the lungs, and two had bronchiectasis.

Carcinoma.—Fifteen subjects had carcinoma elsewhere, not in association with the ulcers, and in one of these the [illegible] was in another part of the stomach. In the 5,070 autopsies, the percentage incidence of carcinoma was 13·3.

Nervous Lesions.—If the cases at the Parkside Mental Hospital are excluded, there were five subjects with cerebral softening, one with pronounced cerebral and coronary atheroma, one with tabes and one with *paralysis agitans*. Amongst the ten mentally abnormal subjects, one was a senile dement, one with small ulcers in the stomach suffered from acute alcoholic insanity, two were general paralytics (one of them also had softening in the lenticular nucleus), one had *pachymeningitis hæmorrhagica interna* and one had pia-arachnoid hæmorrhage.

Alimentary Lesions.—Two patients had cirrhosis of the liver and one had dysenteric ileo-colitis.

Gout.—One subject suffered from gout.

Hydatid Cysts.—Three subjects with gastric ulcers, all aged sixty-five years or more, had degenerated hydatid cysts, and three subjects with duodenal ulcers had such cysts, in one case degenerated. There were thus six instances of hydatid cysts in the 207 cases of gastric and duodenal ulcers, including scars of ulcers. There were 96 examples of hydatid cysts in the 5,070 autopsies—a percentage of just under 2·0. This slight excess of hydatid cysts in persons who have or have had peptic ulcers is probably of no significance. The only possible association one can think of is that the hexacanth embryo, in burrowing through the gastric mucous membrane to reach the portal blood stream, may leave behind a small area of injured tissue, which forms the beginning of the ulcer. This suggestion should perhaps not be too lightly dismissed. It is possible that the primary ætiological agent is to be looked for as coming from the contents of the stomach rather than by the blood or lymph stream. In most of our cases, and in those from hydatid-free countries, such a postulated agent must be other than a hydatid hexacanth embryo, but producing similar effects.

Duodenal Ulcers (70 Cases).

Vascular System.—Two patients had syphilitic aortitis and two aneurysms in addition. A woman, aged seventy-one years, had mitral stenosis, and another, aged sixty-six years, is recorded as having heart disease. Five had hypertrophy of the heart with chronic venous congestion, two of these with infarcts in the lungs. Advanced coronary atheroma appeared in four subjects, the scar of an ulcer was present in another; one of the subjects was a man, aged fifty years, who had coronary thrombosis, bilateral gangrene of the feet, atheroma with thrombi in the abdominal aorta and a degenerated area in the lung; a woman, aged sixty-six years, had thinning of the ventricular wall and an ante-mortem clot on it.

Infections.—Infections were nine in number. The subjects include a boy, aged eighteen years, with a gangrenous appendix and purulent phlebitis of the ileo-colic vein; a woman, aged thirty-six years, with pyæmic abscesses of the lungs and empyema of the gall-bladder; a man, aged thirty-nine years, with chronic empyema and an abscess of the brain; a man, aged forty-one years, with foul infiltration of the perineal tissues; a woman, aged forty-six years, who had recently had an abortion and who had hæmolytic streptococci in the spleen and infective softening of the left occipital lobe; three patients with infections in the kidneys or prostate; and a man, aged sixty-five years, with chronic osteomyelitis of the knee and foot.

Tuberculosis.—Four subjects with ulcers and one with a duodenal scar had pulmonary tuberculosis; in one of the former the ulcers were acute. Three subjects with ulcers and one with a scar had tuberculosis elsewhere; two of the former died from tuberculous meningitis.

Respiratory Lesions.—There were one subject with bronchiectasis and one with fibrosis of the lungs.

Malignant Disease.—Three patients had carcinoma elsewhere than in the stomach. A young man, aged twenty-two years, had a condition probably related to Hodgkin's disease, and a man, aged sixty-six years, had a reticulo-endothelioma.

Nervous Lesions.—Apart from the Parkside Mental Hospital cases, the only associated conditions under the heading "nervous lesions" were cerebral softening in an old man, and *delirium tremens* with fibro-fatty liver in a man, aged twenty-eight years. Among the insane patients, a man, aged fifty-five years, had old and recent cerebral hæmorrhages; a man, aged fifty-six years, had delusional insanity; a woman, aged sixty-nine years, had subacute melancholia; and a man, aged forty-seven years, had

subacute melancholia with a history of trauma, and showed some slight adhesions between the pia-arachnoid and dura near the optic chiasma.

Alimentary Lesions.—A man, aged thirty-nine years, had cirrhosis of the liver, and the man aged twenty-eight years, mentioned above as having *delirium tremens*, had a fibro-fatty liver.

Hydatid Disease.—There were three examples of hydatid disease; see the remarks referring to gastric ulcer.

Multiple Ulcers.

In 27 of the cases of gastric ulcer, and in 27 of the cases of duodenal ulcer, more than one ulcer was or had been present. In the gastric cases, the ulcers usually numbered two; either both were open, or more rarely, both were scars. On the other hand, a man, aged fifty-three years, had a small chronic ulcer above the pylorus and a healed ulcer above this; four ulcers occurred twice and several were multiple, a man, aged twenty-two years, for instance, having multiple small punched-out ulcers. In the duodenal cases, the multiple ulcers usually numbered two; they were mostly open, though sometimes both appeared as scars; a man, aged forty years, had a sutured ruptured ulcer on the anterior wall and a scar on the posterior wall. Three ulcers occurred once and four small ones once.

In five cases, the subject had both gastric and duodenal ulcers. In a woman, aged seventy-one years, they had both healed; in a man, aged sixty-five years, there were a chronic gastric ulcer and a duodenal scar.

In two cases in which gastro-enterostomy had been performed, one for gastric ulcer and one for duodenal ulcer, there were acute ulcers in the jejunum.

Chronic Ulcers in a Man who had Swallowed Hydrochloric Acid.

In a man, aged forty-seven years, who two months previously had taken spirits of salts for suicidal purposes, there were two ulcers with clean bases of fibrous tissue and overhanging folds of mucosa, one at the cardiac end, an inch long, and one at the pyloric end, an inch and a half long. The assumption seems reasonable, especially in view of their situations, that the ulcers were the result of ingesting the acid. Though nothing like such a super-hyperchlorhydria could occur naturally, the case does perhaps emphasize the importance of the usual hyper-acidity in the ætiology of peptic ulcers, and of the view that stimulation of nervous and perhaps central origin may result in so acid a secretion in an empty stomach that damage may result, if not on a normal mucosa, at least on one not nutritionally perfect.

Peptic Ulcers with Ulcerations Elsewhere in the Alimentary Canal.

In six cases there were ulcerations of one kind or another in the intestines associated with the peptic ulcers. These are enumerated below, in case they may throw some light on the genesis of peptic ulcers.

A male, aged thirty-six years, had several superficial ulcers of the stomach, healed ulcers of the ileum, a peri-nephric abscess, pale granular kidneys, hypertrophied left ventricle and syphilitic aortitis.

A man, aged sixty-three years, had an old pyloric scar and some hypertrophy of the pylorus, slight ulcers of the ileum and pernicious anæmia.

A man, aged thirty-two years, had a healing ulcer of the lesser curvature, several small ulcers in the cæcum and ascending colon, early gangrene of the toes of the right foot, massive bilateral suprarenal hæmorrhages and hæmorrhages around the abdominal aorta and *vena cava*, as well as large red kidneys "flea-bitten" with hæmorrhages.

A man, aged thirty years, had a healed duodenal ulcer, a chronic ulcer (tuberculous) of the ascending colon, an hypertrophied and dilated heart with chronic venous congestion and tuberculosis of the vesiculæ, a healed tuberculous hip and an inspissated cold abscess of the neck.

A man, aged thirty-six years, had multiple superficial scarring ulcerations of the small intestine and scars in the duodenum, probably of similar origin. There were some hypertrophy of the pylorus, a sound gastro-enterostomy and a small abscess in the lung.

A man, aged sixty-five years, who had a gastro-jejunal ulcer after gastro-enterostomy, and a healed duodenal ulcer, had general peritonitis from rupture of a necrosed area in the sigmoid colon.

Chronic Ulcer in the Cardiac End of the Stomach.—A woman, aged sixty-six years, had a chronic ulcer in the cardiac end of the stomach, which was herniated into the thorax.

Ulcers in Leuchæmia.—Not included in this review is a man, aged forty-two years, with aleuchæmic leuchæmia and infiltrations, who had three small ulcers with infiltrated bases in the stomach as part of the leuchæmic process.

Correctness of Diagnoses.

Apart from the tabulation of the autopsy results, the "requests cards" in use at the Royal Adelaide Hospital supply information of value. On these cards, authorizing the post-mortem examination, a tentative diagnosis is given, the diagnosis presumably which would appear on the death certificate if no autopsy were held. The autopsy findings are later added. I have recently revised 2,500 of these cards and have abstracted cases in which peptic ulcers were diagnosed or were present. The following results appear.

Gastric ulcers were correctly diagnosed, mostly as gastric ulcers, but sometimes as peptic ulcers, and once as a duodenal ulcer, though they could sometimes only be inferred, in 22 cases.

Gastric ulcers were the cause of death or contributed to it, but were not diagnosed, in three cases.

Gastric ulcers were present, but not the cause of death and not diagnosed, in nine cases.

Peptic ulcer was diagnosed, but not present, in seven cases.

Duodenal ulcers were correctly diagnosed, mostly as duodenal ulcers, but some as peptic ulcers, and sometimes they were only inferred, and in three cases they were considered as gastric ulcers, in nineteen cases.

Duodenal ulcers were the cause of death, but were not diagnosed, in three cases.

Duodenal ulcers were present, but were not the cause of death and not diagnosed, in four cases.

Both gastric and duodenal ulcers were present in one case, in which, from the hæmatemesis that occurred, a peptic ulcer was obviously suspected.

The total number of gastric ulcers was 34 (diagnosed or suspected 22), and of duodenal ulcers 26 (diagnosed or suspected 19).

Details of some of the above-mentioned groups of cases are as follows.

Gastric Ulcers the Cause of or Contributing to Death, but not Diagnosed.

In three cases in which gastric ulcer was diagnosed, the diagnoses made—cirrhosis of the liver, severe anæmia and carcinoma of the stomach—were all likely ones.

Autopsy Number 224/38.—A woman, aged sixty-nine years, who had had hemiplegia for eighteen months after a cerebral hæmorrhage and recent bilateral parotitis which had healed, had hæmatemesis thought to be due to cirrhosis of the liver, and death was attributed to hypostatic pneumonia. She was found to have a juxta-pyloric ulcer as well as left cerebral softening.

Autopsy Number 70/40.—A woman, aged sixty-five years, was admitted to hospital from the Home for Incurables for investigation of her rheumatoid arthritis. Her hæmoglobin value was found to be only 23%. She was given a transfusion of a pint of blood, after which her temperature rose to 105° F. and she became unconscious and cyanosed, with gasping respirations; she died two days after admission to hospital. Suggestions as to the possible cause of her death were incompatibility of the blood used for transfusion, cerebral hæmorrhage and heat stroke. She was found to have a large chronic gastric ulcer (presumably the cause of the anæmia), an hypertrophied heart, and diverticulitis with perforation and a cavity with discoloured walls.

Autopsy Number 149/40.—A woman, aged sixty-four years, was admitted to hospital with anæmia and a history of epigastric pain, vomiting and loss of appetite of one year's duration. Three days afterwards she suddenly collapsed,

and Cheyne-Stokes breathing began. A diagnosis of carcinoma of the stomach with probable cerebral thrombosis was made. A chronic gastric ulcer was found, with thrombosis in the pulmonary artery.

Duodenal Ulcers the Cause of Death, but not Diagnosed.

In two of the three cases in which the duodenal ulcers were the cause of death, but were not diagnosed, the patient actually had the condition diagnosed (suppurative pylephlebitis in one case and cardiac failure following hyperpiesis and renal insufficiency in the other); but the first condition was really due to a duodenal ulcer, and in the latter case the effects of the hæmorrhage were evidently masked by the cardiac condition. The diagnosis of carcinoma of the stomach in the third case was again a likely one.

Autopsy Number 32/30.—A man, aged twenty-one years, had his appendix removed seven weeks before death; after two weeks pain developed in the upper part of the abdomen, and he felt feverish. Suppurative pylephlebitis was suspected, and this was found with liver abscesses, a right empyema by extension and intraperitoneal abscesses; but he had as a cause of these conditions a perforated duodenal ulcer.

Autopsy Number 44/33.—A man, aged fifty-eight years, had high blood pressure, a high blood urea nitrogen content, an enlarged liver and much albumin in the urine. He was thought to have cardiac failure and renal insufficiency, and in fact did have an hypertrophied heart and red granular kidneys; but he actually died from fatal hæmorrhage from a duodenal ulcer.

Autopsy Number 124/37.—A man, aged seventy-two years, had melena, indigestion and loss of weight of six weeks' duration, and was thought to have a carcinoma of the stomach; but he was found to have a chronic duodenal ulcer adherent to the gall-bladder and an hypertrophied heart.

Peptic Ulcers Diagnosed, but not Present.

In seven cases peptic ulcers were diagnosed, but were not present. Amongst the conditions found in these cases were bilateral pleurisy and peritonitis, general peritonitis from a lesion in the caecum, an infected gall-bladder, cirrhosis of the liver and hæmophilia.

Autopsy Number 2/34.—A man, aged forty-nine years, thought to have a ruptured gastric ulcer with peritonitis, was found to have bilateral pleurisy with exudate and peritonitis in the upper part of the abdominal cavity; but no gastric ulcer was detected.

Autopsy Number 85/31.—A man, aged fifty-three years, with pains in the chest and abdomen, a rigid abdomen, and broncho-pneumonia was thought to have a ruptured gastric ulcer. The abdominal cavity was opened and drained. At autopsy general peritonitis was present, apparently secondary to a softened patch in the caecum; but there was no gastric ulcer.

Autopsy Number 62/32.—A man, aged forty-seven years, at operation was found to have fluid in the peritoneal cavity, which was thought to be due to a perforated gastric ulcer, though this could not be located. Autopsy showed that the wall of the gall-bladder was infected and hæmorrhagic, and that many gall-stones were present; he also had early pneumonia.

Autopsy Number 128/35.—A woman, aged sixty-four years, who had had asthma and bronchitis every winter all her life and had been treated for gastric ulcer for the past year, was admitted to hospital with congestive heart failure, and died next day. She was found to have bronchiectasis, bronchitis and emphysema, with failure of the right side of the heart; but she had no gastric ulcer.

Autopsy Number 14/27.—A woman, aged sixty years, had had bilious attacks for six months and pain in the epigastrium. Cholecystectomy was performed and later a hernia occurred. During the last two weeks she had vomited about six ounces of blood on several occasions. She was thought to have a peptic ulcer, but autopsy revealed only fatty infiltration and fibrosis of the liver, abdominal adhesions and fatty infiltration of the heart.

Autopsy Number 191/29.—A man, aged fifty-six years, had hæmatemesis and melena attributed to a probable gastric ulcer, but he was found to have atrophic cirrhosis of the liver, dilated veins in the lower part of the œsophagus and a large spleen.

Autopsy Number 4/41.—A man, aged forty-nine years, was admitted to hospital with the diagnosis of hæmatemesis and hæmophilia. Hæmorrhage was occurring at the time of his admission, and he had extensive hæmatemesis and melena before death, so that a duodenal ulcer was suspected; but none was found. There was blood in the intestines, and the diagnosis of hæmophilia was considered correct.

Summary.

1. The records of 5,070 South Australian autopsies have been investigated for the presence of peptic ulcer.

2. Gastric ulcers (110) decidedly exceed duodenal ulcers (70). This relationship is shown to have existed for the last twenty-two years.

3. Up to the age of fifty years, gastric and duodenal ulcers are about equally common. After this age, the gastric ulcers increase considerably, but not the duodenal ulcers.

4. Gastric ulcers are four times as common in men as in women. Duodenal ulcers are relatively rare in women, the proportion of men to women being about seven to one.

5. In about half the cases of gastric ulcer, this condition has led to death. Of 58 such deaths, hæmorrhage was responsible for 23, the immediate effects of rupture for 20, peritoneal abscess for four and massive pulmonary embolism for one; and in six cases death followed the performance of gastrectomy or gastro-enterostomy. In 60% of the duodenal cases, the ulcer caused death. Of 42 such deaths, hæmorrhage caused 12, rupture 22 and peritoneal abscesses four; and in three death occurred after the establishment of a gastro-enterostomy.

6. No pathological lesions in other parts of the body, with one very doubtful exception, occur sufficiently frequently to be likely to be connected in any way with the ætiology of peptic ulcers.

7. Hydatid cysts, the exception referred to, occurred slightly more frequently in association with both gastric and duodenal ulcers than would be expected from the incidence of these in all autopsies. The figures are too small, however, to command much attention. Any possible connexion, apart from anaphylactic reactions, would probably consist in injury to the mucosa during the passage through it of the hexacanth embryo.

8. Two chronic gastric ulcers were found to be present two months after the swallowing of spirits of salts.

9. The correctness of the diagnosis in a series of cases, in which peptic ulcers were either present or suspected, has been reviewed.

Reports of Cases.

ŒSOPHAGEAL FISTULA IN THE RIGHT LOIN.[1]

By BEN DENNING,
Sydney.

Clinical Record.

A FEMALE patient, aged twenty-two years, in December, 1940, began to suffer from a dull pain in the right loin; a tender swelling then developed in that area. The swelling varied somewhat in size during the next two months, but it gradually increased and became more painful, and in February, 1941, the patient was admitted to hospital. She was found to have a right perinephric abscess, which was opened. Drainage was not satisfactory, and the abscess pointed superficially in several other spots in the right lumbar area, eventually being opened in eight places. The discharge and the pain persisted for a further two months, during which period the patient lost a considerable amount of weight. As far as is known, all the investigations carried out gave negative results.

[1] This patient was shown at a meeting of the New South Wales Branch of the British Medical Association at the Royal Prince Alfred Hospital on May 21, 1942.

After April, 1941, her general condition improved, the pain disappeared and she began to regain weight. Five of the eight sinuses closed, but the other three have continued to discharge ever since. About November, 1941, the patient noticed a feeling of cold in the right loin after drinking cold water, a feeling of heat after taking hot drinks, and a stinging sensation after taking vinegar or pineapple.

The patient came under observation at the Royal Prince Alfred Hospital on May 18, 1942. At that stage she still had three sinuses in the right loin, with a profuse discharge of pus. She also complained again of the above-mentioned sensations on eating. During the previous twelve months her general condition had improved, and her weight was greater than at the beginning of her illness. It was noticed during her stay in hospital that about ten minutes after she ate chocolate, chocolate appeared from the uppermost sinus. Occasionally bubbles of gas came through the sinuses, especially if she belched. No redness or excoriation was present, and there was no sign of irritation around the three sinuses, as would be expected if a gastric or duodenal fistula was present. The discharge was neutral—neither acid nor alkaline. General examination revealed no other abnormality.

An X-ray investigation was carried out. Barium was administered, and the patient was then examined by means of fluoroscopy and a skiagram was taken. This showed the œsophagus to be somewhat dilated and pulled across to the right of the middle line at its lower end; about one inch from the cardio-œsophageal junction it made a sharp right-angled bend again to the left. At the site of the angulation there was an irregularity in the lower end of the œsophagus just above the diaphragm. This irregularity had irregular borders and extended downwards and towards the right, with a notch immediately above in the œsophagus, probably due to spasm. From the irregularity a tortuous and irregular course of faint barium stain extended downwards and to the right, indicating the course of the sinus. The stomach and duodenum and the proximal portion of the small bowel appeared normal.

The patient had suffered from chronic osteomyelitis of the proximal half of the eleventh and twelfth ribs and also of the right lateral aspect of the eleventh and twelfth dorsal and the first and second lumbar vertebræ. The costo-vertebral joints had been involved, and there was a bridge of bone uniting the twelfth rib on the right side with the transverse process of the first lumbar vertebra. The inter-vertebral disks did not appear to be involved, but in the vertebral bodies reactive new bone in the form of osteophytes was seen on the right side, and the bodies were uniting to produce ankylosis of the lower two dorsal and the upper two lumbar vertebral bodies. The psoas outline on the right side had completely disappeared. Convex scoliosis of the spine to the left was present, probably due to spasm of the right *erector spinæ*. There was nothing to suggest that the condition was of tuberculous origin. The appearances rather suggested a chronic septic lesion in the region of the right kidney fossa, associated with a large psoas abscess and osteomyelitis of the ribs and vertebræ by direct extension.

The uppermost sinus was injected with lipiodol. The lipiodol appeared at the middle sinus shortly afterwards, and this was plugged with cotton wool. The lipiodol then appeared at the lowest sinus, which was similarly plugged. Approximately 15 cubic centimetres of lipiodol were injected, and a skiagram was taken with the patient in the prone position. A network of lipiodol tracks was seen leading from the three sinus openings and converging in the right kidney area, and then tracking upwards towards the lower end of the œsophagus. Some of the lipiodol entered the œsophagus and some passed on into the stomach.

A cystoscopic examination showed that the bladder wall and orifices were normal. Both ureters were catheterized and no obstruction was encountered. A double pyelogram was taken. The left kidney had a double pelvis and a double ureter uniting about four inches below the kidney, but seemed otherwise normal. The right renal pelvis was hyperplastic and slightly hydronephrotic. There was no indication of renal tuberculosis. No communication was found between the urinary track and the sinuses. Excretion pyelography confirmed these findings, and showed that excretory function was rather poor on both sides. An X-ray examination of the chest revealed old tuberculous foci at the apices of both lungs.

Bacteriological and cultural examination of the discharge revealed a mixture of many organisms, mainly *Staphylococcus aureus* and *Streptococcus viridans*. There was no evidence of *Mycobacterium tuberculosis* or of actinomyces.

A blood count revealed a leucocytosis of 18,000 per cubic millimetre; most of the leucocytes were neutrophile cells.

Comment.

In spite of the old tuberculous foci in the lungs, none of the other findings are in favour of a tuberculous origin of the condition. The osteomyelitis of the vertebræ and ribs appears to be due to secondary involvement by direct extension. Probably the origin was a perinephric abscess of pyogenic origin, which before being opened had eroded through the psoas sheath into the psoas muscle. From there extension to the vertebral bodies was almost inevitable. The condition then became one of chronic osteomyelitis with a long sinuous track to the surface in the lumbar region—a state of affairs unfavourable to healing. But more was to follow. The process then spread slowly upwards behind the origin of the diaphragm into the posterior mediastinum. The spread must have been so slow that the development of fibrous reaction in advance of the abscess prevented a general mediastinitis. The subsequent contraction of this fibrous tissue caused angulation of the œsophagus by traction, and later a fistula developed at the site of angulation.

When the œsophagus is pulled over to the right, the site of the fistulous opening probably lies between the aorta and the inferior *vena cava* in the posterior mediastinum and is inaccessible to surgical approach. Even if access was obtainable, it is difficult to see what surgical treatment would be effective.

The possible future complications are (i) mediastinitis, (ii) œsophageal diverticulum, with repeated filling and emptying and further suppuration, and (iii) œsophageal stricture.

Acknowledgements.

I wish to express my thanks to Dr. J. Vote for his help in interpreting the X-ray films, and Dr. J. W. S. Laidley for carrying out the cystoscopic examination.

Notes on Books, Current Journals and New Appliances.

A BOOK ON THE AUSTRALIAN ALPS.

MEDICAL practitioners who love the Australian Alps and frequent them when they are capped with snow, and they are by no means few in number, will welcome the appearance of a book by Elyne Mitchell entitled "Australia's Alps".[1] Elyne Mitchell (she is Mrs. Tom Mitchell) writes with the enthusiasm of one who is at home among mountains and she can write with authority, for the reader is told in a foreword that she is a member of ski clubs in many parts of the world and has won ski contests in more than one country. In seventeen chapters of this book, which is superbly illustrated, the author takes the reader with her in her journeyings in the Australian Alps. Those who know these mountains will revisit them in the pages of this book and try to recapture some of their first joy and inspiration. Those who have never seen them will, unless they are quite unimaginative, not be content until they have explored them. Elyne Mitchell has more than a surface knowledge of her subject. She writes: "In a mountain evening, or dawn, or a moonlit night, entity is almost lost in a transcending feeling, deeper even than love, for the mystery of the world and the universe. Body and soul dissolve into something all-embracing." And in another place: "I believe that beauty and experience, loved, lived through and begotten, enter into the structure that is one's being. Surely our purpose in this world is to enrich our spirits, to take back to our Creator a self which has learned of Truth and Light, for that is all we can take." On the dust cover the publishers write: "We venture to predict that *Australia's Alps* will become the standard introduction to the Kosciusko country as one of the world's winter pleasure resorts." The book is written with such understanding and insight that it deserves a much better fate than that of a guide book—an "introduction" to a "pleasure resort". We wish for it this better fate.

[1] "Australia's Alps", by Elyne Mitchell; 1942. Sydney: Angus and Robertson Limited. Crown 4to, pp. 198, with 57 illustrations. Price: 12s. 6d. net.

The Medical Journal of Australia

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All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

Reference to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: Initials of author, surname of author, full title of article, name of journal, volume, full date (month, day and year), number of the first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

PER ARDUA AD ASTRA.

EVERY Australian worthy of the name sprang to attention and was thrilled in the whole of his being by Mr. John Curtin's call to courage, sacrifice and severe living when in a recent broadcast speech to the nation he opened what has been called the Austerity Campaign. That many persons have been waiting for such an event makes it for them none the less compelling; in fact their response should on that account be readier and their achievement greater. Many months ago Mr. Winston Churchill, newly come to the office of Prime Minister in Britain, told the people of Britain and the Empire that he had little to offer but work with blood and tears. He has been as good as his word, and the world has watched the British peoples arise and take up the challenge, to do the work and to steel their wills, so that in spite of blood and tears they might face the enemy prepared and confident. The road is hard; it is steep and is beset with grim barriers. Though the summit is not yet in sight, none can doubt that the struggle thus far has had a wholesome effect on Britons in every place. If it has done nothing else it has made them understand, as yet perhaps incompletely but certainly as they have never understood before, that they are one people sprung from a common stock and that they share a common tradition which shows itself in a love of freedom and fair play. In the fullness of time, when they have fulfilled their destiny, they will not only acknowledge the right of other nations to share that freedom, but will not be content until these nations enjoy like privileges with themselves. In the early days of the war it was not perhaps to be wondered at that some people in Australia, situated as they were in a land so far from the centre of the conflagration, should not understand the full significance of what was happening, or if they understood, did not see that they had each a part to play which was just as definite and every bit as essential to success as the rôle of any citizen in England. The entry of Japan into the war and the assault of the Japanese on our own shores have surely left no one in ignorance of our danger and of the completeness of the enemies' plans. For any who could not or would not see things as they really are, Mr. Curtin with commendable candour made the position quite clear in his statesman-like utterance. There is no need to traverse even the salient features of the speech; it is or should be fresh in the mind of everyone. There are certain points, however, which we would recall.

Mr. Curtin said bluntly that "if we do not strip ourselves to save our country then the enemy will do it with a ruthless efficiency and with a maximum of misery that can have a counterpart in the imagination". (We quote from the report in *The Sydney Morning Herald* of September 4, 1942.) Australians had individually to "wage a war to the death just as though we were man for man engaged in a bloody combat". The call to Australia, Mr. Curtin declared, was a call for the nation to take everything that was the Australian way of life, weigh it, contribute the major part of it for the purposes of war, and "leave merely the barest minimum of it as the residue available". The Government has planned the Austerity Campaign on this foundation, and in the campaign it has three main objectives. The first is "to bring the people to a realization that only by an austere way of life can we muster our national strength to the pitch required for victory". The second objective is "that by entering upon a season of austerity, all the Australian people can by the sacrifice of unaustere things, subscribe to the £100,000,000 loan". The third objective is "to place the greatest possible emphasis on supply and production". At the outset we remarked that every Australian worthy of the name sprang to attention and was thrilled in the whole of his being by Mr. Curtin's address. It should not be necessary to add at this stage that every Australian worthy of the name will answer the call to the best of his ability. Mr. Curtin put forward a pledge which he asked every Australian to take. It is this pledge which is the occasion of the present reference to the whole subject. One of the clauses as reported in the daily Press has given rise to apprehension in the minds of medical men and women who are heart and soul with Mr. Curtin in his Austerity Campaign. The first part of the clause in question reads as follows:

> We pledge ourselves individually to throw everything we have into a stupendous effort against the enemy. We shall cut from our lives every luxury, every relaxation, every temptation to slack.

It has been pointed out that a pledge put forward as this pledge was put forward must have been carefully planned and worded to express the meaning of those who drafted it. If this is true, then the pledge is bad, for medical practitioners know, as medical journals in this country, in Great Britain and in America have declared time and time again, that occasional relaxation is essential to effective effort. As we read Mr. Curtin's speech, however, we do not think that he means what he states in his pledge; the wording in our opinion has been unfortunate. The pledge must not be read apart from its context. Mr. Curtin is reported to have said in another place in the

same speech: "The Government considers that relaxation is required because of the strain of war . . ." Obviously he cannot mean this and at the same time ask people to pledge themselves to no relaxation. We prefer to believe that Mr. Curtin takes the common-sense view and that some word like "unnecessary" was omitted inadvertently from the pledge just before the word "relaxation". If this is so the fears that have been expressed are groundless. To satisfy the fearful some statement from the Prime Minister would be welcome.

The pledge put forward by Mr. Curtin and the proposals of the Government to cut out certain forms of organized sport and to tax the tickets for admission to certain forms of entertainment, as well as the third objective of the Austerity Campaign, already stated, raise the whole question of bodily and mental fatigue in relation to work and production. On previous occasions we have dealt at considerable length with the subject of fatigue in industry, especially in wartime industry, and we have quoted reliable reports of investigations undertaken in Great Britain to show the bad effect on production of long hours without rest pauses. We have also recorded appeals made to the Federal Government on this matter by the Federal Council of the British Medical Association in Australia. It can therefore be easily understood that we welcome Mr. Curtin's recent statement that the Government considers that relaxation is required because of war strain. We have now reached the stage when relaxation has to be considered in relation to the wartime activity of the whole community. It is not the province of this journal to state that one branch of sport should be curtailed, that another should be cut out altogether or that a third should be extended. In all questions of public sporting fixtures all aspects of the question have to be considered—those who take part, those who watch, the ability of the public to pay and the need of the Government for money. Relaxation may be a relaxation of the body or of the mind or of both. For relaxation to do much good it has to be enjoyed; and relaxation must be chosen in relation to the acquired habits of the individual. One man relaxes by playing football; another by watching a football match. One man recreates his *joie de vivre* by digging in his garden, another by a visit to the cinema, another by listening to music, and so on. That the subject is difficult is shown by the fact that some forms of relaxation will in all probability soon be no more—golf and tennis are likely to cease before long because of a scarcity of balls. And one of the daily papers recently recorded that hikers would have to cease from hiking because of difficulty experienced in the repairing of boots. Relaxation should be undertaken as far as possible in the open air and generally speaking should involve some activity of the individual. But these general statements do not always apply. Some governmental activity can be expected and we have the right to ask that all the factors be given due weight before a final decision is reached. Whatever is done must be done without fear or favour. The Australian will generally give a man a "fair go" and will do the same to a government which is just in its decisions and shows favour to no man because of his social status or political creed.

Current Comment.

DETERMINATION OF AGE.

Most medical men at one time or another have been called upon to make an estimate of a person's age. This is always a difficult task, and it may greatly tax the medical man's knowledge and his powers of deduction. Unless his experience is very great errors of many years may be made. During the stages of development such great errors are not likely; but here, the solution of the problem is usually more important than at any other period, and a mistake of a year or so might have very serious consequences. It might mean, for example, the saving of a person who has been guilty of a criminal offence, or the condemnation of another for a crime that has not been committed. In most countries there are laws providing for severe punishment of any man who has carnal knowledge of a girl younger than a certain specified age. This sets one to wondering how the layman should be expected to make a fairly accurate estimation of a girl's age when the problem might prove quite baffling to a group of men with training in human anatomy and physiology. But that is by the way. It is apparent that no single test will provide the information required to form an estimate of age. The man who relies on the eruption and appearance of teeth as a guide to his opinion will make many mistakes. Teeth do not always appear in the text-book order; precocious dentition is not uncommon; some people never have teeth; Glaister mentions the case of a man who cut his one and only tooth at the age of fifty-four years; finally, temporary teeth may be retained to an advanced age. Similar difficulties present themselves when other single tests, such as radiological examination of bones, are considered. Glaister remarks in regard to the onset of puberty, that it "is very variable, and although from a large mass of cases we may be able to formulate some average age at which they appear, the calculation does not apply to the individual". The opinions of Dabiruddin Ahmad, former police surgeon and professor of medical jurisprudence at Calcutta, as expressed in a recent paper, are worthy of comment.[1] He points out that it is important for the police surgeon to be able to make an accurate estimation of a girl's age; for according to Indian law: "Whoever sells, lets to hire, or otherwise disposes of any person *under the age of 18 years* with intent that such person shall at any age be employed or used for the purpose of prostitution or illicit intercourse with any person or for any unlawful and immoral purpose, or knowing it to be likely that such person will at any age be employed or used for any such purpose, shall be punished with imprisonment . . ."

Ahmad bases his method of estimation of age on seven factors: general appearance and development, height, weight, cutting and growth of the teeth, signs of puberty, X-ray appearances of bones, and degenerative changes. The only signs that are individually of much value are the appearance of the teeth and the X-ray appearances of bones; but taken collectively the signs observed by an experienced practitioner should enable him to make an estimate of age that will be no more than six months greater or less than the real age, in the case of a girl.

General appearance is apt to be misleading; Ahmad admits that on one occasion he made a mistake of nine years in estimating the age of a young woman on general appearance alone. The important thing is first to look carefully at the face.

Estimation of height and weight is of little value, as they are so variable; at the same time it is well to have some knowledge of the average height and weight at given ages.

[1] *Indian Medical Gazette*, June, 1942.

With regard to the teeth, there are two important points, namely, that a girl aged twelve years or over will have cut all her permanent teeth except the third molars, and that the third molars come through at about eighteen years. In Ahmad's experience of Indian girls, the third molars are more likely to appear before the age of eighteen years than after that age. This is not true of Australian girls, many of whom never cut third molars. In the case of an Australian girl, if third molars are present, she is not likely to be less than eighteen years old. Another point not mentioned by Ahmad is that any one tooth or pair of teeth may fail to erupt. If, for example, the canines or the second molars failed to appear, the difficulties of a man basing his estimation on dentition alone, would be considerably increased.

In discussing signs of approaching puberty, Ahmad bases his statements on his knowledge of Indian girls, in whom precocity is the rule. He mentions, for example, that the breasts are generally fully formed by the age of fourteen, and that a daughter of a friend of his became a mother at the age of twelve. The growth of axillary and pubic hair, the development of the breasts, and the establishment of menstruation are so variable in the time of their appearance that they are of little value alone in the estimation of age, here in Australia as elsewhere.

Ahmad points out that the union of epiphyses of long bones occurs earlier in Indian girls than in girls of western origin. But in India, as elsewhere, the time of union is variable. For example, fusion of the humeral head with the shaft may occur as early as fourteen years or as late as eighteen years. Ahmad mentions that he has seen a man aged thirty-two years who had the external and radiological appearances of an average boy aged twelve to fourteen years. Such people, of course, are freaks; but if their history is not known they may provide the police surgeon with some knotty problems. Ahmad makes a radiological examination of the bones of the upper extremity; he regards this procedure as sufficient for this part of the investigation.

He regards the appearance of degenerative changes as useless for the purpose of estimation of the age of a young person. But surely they must be of some value. Grey hair, wrinkles and *arcus senilis*, except in those rare cases of progeria, do not appear together in a child.

Ahmad's paper is commented on here, not because it is a particularly good paper or because it has anything new to teach, but because it draws our attention to a difficult subject and one of considerable importance. The author is a man who has had great experience in his subject, and his opinions carry weight. We are reminded that no single clinical feature or diagnostic procedure provides all the information required to form an accurate estimate of age; nor does any one such feature or procedure provide sufficient data for an accurate diagnosis of disease. There are medical men, as well as lay people, who believe that all that is required for a complete knowledge of anything is an X-ray examination or a blood count or some other test that has been made familiar to them by the expert's reports only.

TESTS OF PULMONARY EFFICIENCY.

It has never been a simple matter to assess the efficiency of the respiratory function of the lungs in man. One reason is that the respiration is a process directed at once to several ends, the provision of oxygen, the elimination of carbon dioxide, the regulation of the hydrogen-ion concentration of the blood and the maintenance of normal temperature. Various tests that have been devised and employed are deficient in that they measure the efficiency of the breathing in respect of only one or two of these functions. One such test is the determination of the "ventilation equivalent for oxygen" introduced by Anthony in 1930; the ventilation equivalent is the amount of air in litres that must pass through the lungs in order that 100 cubic centimetres of oxygen may be consumed. It is clear that the ventilation equivalent will be falsified whenever the respiration is stimulated or depressed by abnormalities in the hydrogen-ion concentration of the blood, as it will also during the emotional hyperpnœa which commonly occurs in patients who are being examined with novel apparatus. Other tests in common use are made with mercury manometers; the subject may be requested to raise the column of mercury as high as he can by an expiratory effort, or to sustain the column at a height of 40 or 50 millimetres for as long as he can: these tests are very crude and of little value. Measurement of the vital capacity may have some value, but as with the tests last mentioned, good results may often be achieved by persons with pulmonary disease, while poor results may be obtained from healthy persons who are tired or nervous. Many clinicians prefer to regard the heart and lungs as a single unit and by their exercise tolerance tests or merely by an impression based on experience and acumen are prepared to judge whether the patient is fit to bear a child, to submit to a surgical operation or to fly in an aeroplane.

When the operation of thoracoplasty is contemplated it becomes desirable to be able to estimate the efficiency of the lungs individually. The introduction of bronchospirography by H. C. Jacobaeus in 1932 seemed to be the first step toward the realization of this object. In bronchospirography a double-channelled bronchoscope is passed so that both bronchi are intubated and the extent to which each lung contributes to the total pulmonary function can then be studied simultaneously. Jacobaeus and his associates found that the radiographic appearance of the lungs was no guide to their functional capacity; large abscesses do not much impair the function of the lung, while pleural adhesions unrecognizable by X rays may greatly reduce function, especially the expulsive force of cough. However, for some years the method was not much practised. In 1939 P. W. Gebauer devised a bronchial catheter of soft rubber which has made bronchospirography a much less disagreeable and a more exact procedure and has given a fillip to its application. M. Pinner and his associates at the Montefiore Hospital, New York, have recently extended the work of the pioneers.[1] They believe that bronchospirography has become an important means of establishing proper indications for pulmonary collapse therapy. They have found that in all lungs that are severely damaged as regards their function, pleural symphysis is largely to blame. Lungs with lesions which are strictly parenchymal, even though far advanced, frequently have only slightly decreased function. Lungs reexpanded after pneumothorax may or may not show extensive functional limitation. Lungs reduced in volume as a result of thoracoplasty, if there is no diaphragmatic paralysis, participate to a considerable extent in respiration. In lungs damaged by disease or its treatment, respiration is usually much more limited than ventilation and it is therefore more than ever misleading to judge their function by their vital capacity alone.

Bronchospirography, being a procedure by which the function of the two lungs is compared, is immune from most of the shortcomings of the tests which purport to show whether the respiratory efficiency of the individual is normal or not. Since it is not at all a simple procedure, it seems hardly likely that it will find its way into general use in the near future; but no doubt at hospitals where thoracoplasty is regularly undertaken for the relief of pulmonary tuberculosis it will soon be found a useful ancillary to clinical judgement and to indices derived from the blood picture in assessing the risks of the operation. Such an assessment prior to operation is surely not less necessary than an assessment of the function of each of the kidneys prior to a projected operation upon one.

[1] *The Journal of Thoracic Surgery*, February, 1942.

Abstracts from Medical Literature.

GYNÆCOLOGY.

Vaginal Calculus.

F. R. STANSFIELD (*The Journal of Obstetrics and Gynæcology of the British Empire*, February, 1942) reports a case of vaginal calculus; this case brings the total number recorded to 15. Such calculi usually form in the vagina, but may reach that site by ulceration of a bladder stone through the vesico-vaginal septum. Two conditions are necessary for their formation: a congenital or acquired vaginal stricture, and the occurrence of urinary leakage into the vagina through a fistula or as the result of urinary incontinence. The calculi affect subjects chiefly in two age groups: (i) childhood and adolescence, in which the responsible factors seem to be congenital stricture of the vagina and urinary incontinence; (ii) later life, in which urinary fistulæ and post-traumatic vaginal strictures are the ætiological factors. The size of the calculi varies from that of a millet seed to a diameter of as much as four inches; the larger calculi are generally single. Occasionally a foreign body such as a suture, swab or thermometer bulb forms the nucleus of the calculus; but the bulk is derived from the deposition of urinary salts. Urates, oxalates, phosphates, carbonates and uric acid are present; but the phosphatic type of stone predominates, since it forms in an inflammatory alkaline medium. Treatment involves cure of the vaginal stricture and removal of the calculus; at times fragmentation has been necessary before it could be extracted. Urinary fistula or urinary incontinence must be dealt with later.

Arrhenoblastoma.

W. KEVERALL MCINTYRE (*The Journal of Obstetrics and Gynæcology of the British Empire*, February, 1942) reports what he believes to be the first case of arrhenoblastoma recorded in Australia, and discusses these tumours with a brief review of the literature. The general opinion is that the tumours arise from a primitive *ovo testis*, the male element being inactive until the tumour begins to grow and form a testicular tumour, the hormone of which has masculinizing properties. Some pathologists, however, hold different views. Meyer has classified the tumours in three groups: (i) *adenoma tubulæ testiculare*, the most mature and differentiated form with a regular tubular arrangement; clinically the majority of patients with this type of tumour do not show masculinisation; (ii) a middle group, composed of typical and atypical portions and also solid forms, and lying midway between the first and third groups as regards both its microscopic characteristics and its clinical manifestations; (iii) a typical group composed mostly of solid forms with some atypical portions, with no true tubules, though isolated tubules or irregular epithelial cords may be found in a few areas; these tumours are associated with the most pronounced masculine changes. Schiller concluded that not all women possessed certain potentialities of the reproductive organs which were necessary before the arrhenoblastoma could exert its masculininzing effect. Such a conclusion is supported by the fact that typical arrhenoblastomata may occur in women who show no evidence of masculinization. The usual effects produced on the patient by the tumour are: amenhorrœa, loss of fat from the breasts and thighs, atrophy of the mammary glands, growth of hair over the face (distributed as in the male beard), abdomen, forearms and thighs, deepening of the voice and hypertrophy of the clitoris. The uterus and the uninvolved ovary become hypoplastic. The tumour usually occurs in young women who have matured normally. Opinions differ as to the degree of malignancy. The differential diagnosis must be made from Cushing's disease, adrenal cortical tumour and thymic tumour. Treatment is necessarily surgical, and in most cases consists in the removal of the affected ovary only. While the results are dramatic, some of the masculinising changes are not completely relieved; the voice remains more or less baritone; the clitoris does not usually return to its normal size and some degree of hirsutism generally remains. The uninvolved ovary and the endometrium again function normally, and in some cases pregnancy may occur after the removal of the tumour.

"Small Dose" X-ray Therapy and Sterility.

M. FRIEDMAN AND RITA FINKLER (*American Journal of Obstetrics and Gynecology*, May, 1942) report in full a case in which "small dose" X-ray therapy successfully overcame sterility of six years' duration, and temporarily overcame menstrual irregularities present since puberty. The patient bore two children, though treatment for threatened abortion was required during each pregnancy. Menstruation did not return until four months after the patient's delivery of her first child, but thereafter it was regular until the second pregnancy, after which it did not return for fifteen months. The authors point out that the case shows that "small dose" X-ray therapy is of use in sterility due to ovarian deficiency. The possibility that the favourable result may have been coincidental to a certain extent is ruled out by the prompt response to each course of X-ray therapy. The X rays were applied to the ovaries and pituitary gland. Four exposures were made, a total of 80 *r* being given to both ovaries and pituitary gland. It has not been established that small doses of X rays actually stimulate the ovaries, but the authors consider it possible that this type of therapy destroys some inhibitory factor. With regard to the fear that X-ray treatment of the unfertilized ovum may injure the offspring, the authors point out that any evidence of this has been based chiefly on the effects of X rays on the fruit fly *Drosophila melanogaster*, and to a lesser extent on the mouse and guinea-pig; they call attention to the difficulties inherent in attempts to transpose the results of animal experiments to human beings. They consider that the danger that monsters may be produced is very slight. The majority of sterile women who respond to small doses of X rays usually menstruate for a number of months before conceiving. Thus, the ovum which eventually becomes fertilized may have been quiescent within a primordial follicle during the actual exposure to irradiation, and thus would be relatively radio-resistant at that time. The treatment should not be denied to any woman who desires a child; the possible dangers should be explained, and the decision should be left to her. An incidental discovery in the authors' case, at a premenstrual endometrial biopsy after the first course of treatment, was that of a twelve to fourteen day embryo, the third or at most the fourth earliest embryo in the history of medicine.

The Length of the Menstrual Cycle.

JOHN O. HAMAN (*American Journal of Obstetrics and Gynecology*, May, 1942) presents a study of 150 normal women to determine the length of the menstrual cycle. The women were mostly housewives; the majority were mothers in the third and fourth decades of life. They were attending the "rhythm department" of a fertility and endocrine clinic. Upon their admission to the clinic they were given a calendar, with instructions to mark with a circle the first day of the menstrual flow; the calendar was then to be returned promptly to the clinic, so that a member of the staff might mark on it the "safe" and "unsafe" periods. As the women realized the importance to themselves of accuracy and promptness, the statistics gathered may be taken to be reliable. The ages of the women ranged from nineteen to forty-two years; the average age was 30·9 years. A total of 2,460 cycles was recorded. The most common cycle was 28 days in length; this accounted for 15% of all cycles studied. The average length of all cycles was 28·4 days. There was no instance of absolute regularity in the series. The patients who reported the most regular cycles were those who reported the fewest; the author considers that more irregularity would be revealed in these cycles if more had been studied. There was no evidence of grouping of the lengths of cycles into multiples of seven days; nor did the cycles seem to fall into few categories. The distribution of the length of cycles followed the Gaussian curve. The author remarks that his observations substantiate Fraenkel's statement that the one regularity of the menstrual cycle is its irregularity. His series of observations lead him to urge caution in judging the applicability and merits of the so-called "safe" period as a means of birth control.

Serous Adenofibromata and Cystadenofibromata of the Ovary.

ROGER B. SCOTT (*American Journal of Obstetrics and Gynecology*, May, 1942) discusses adenofibromata and cystadenofibromata of the ovary, and reports 14 cases. He considers that these tumours constitute a definite group, and that some of the cases included in the literature may actually not have belonged to this category. The tumours in the 14 cases reported by him correspond to the typical *fibroma ovarii adenocysticum* of Frankl. The tumours were made up of two component parts: a dense, connective tissue matrix, in

which were embedded numerous small cystic spaces lined by compact, single-layered, cuboidal or low columnar epithelium, often ciliated. "Psammoma bodies" and papillary tendencies were frequently observed. The adenofibromata were firm and solid, with minute cystic spaces; the cystadenofibromata were partially cystic, at least one-fourth of the mass being solid. In two cases both ovaries were affected. In three cases the tumour was an incidental laboratory finding. Although *myomata uteri* were present in 6 of the 14 cases, no abnormal condition of the pelvic organs was constantly associated with the adenofibromata or cystadenofibromata. The most common complaint in nine cases was pain, and in six of these it was certainly related to pressure produced by the tumour. The tumours had no endocrinological importance; in five cases abnormal vaginal bleeding was sufficiently explained by associated pathological conditions of the pelvic organs. The most striking clinical feature was the age of the patients. In a total of 31 cases of this distinct group of tumours, including the 14 reported by the author and others taken from the literature, 29 of the patients were aged forty years or over and 20 were aged fifty years or over. Clinical and microscopic examination failed to reveal any evidence of malignancy in these tumours, in spite of the fact that their potentialities towards malignancy appear to be as great as those of the serous cystadenomata and the fibromata. The author believes these tumours to be of germinal epithelial origin, and he stresses their close relationship to serous cystadenomata and papillomatous fibromata. He suggests that they should be classified as a special type of epithelial tumour of the ovary, under the subheading of serous cystadenomata, as has previously been suggested by Taylor.

OBSTETRICS.

Mental Disorders in Pregnancy and the Puerperium.

I. SKOTTOWE (*The Practitioner*, March, 1942) states that the chance of a child-bearing woman's becoming seriously psychotic is about one in a thousand. He also states that the psychosis is not specific to child-bearing; it may be a confusional state, schizophrenia, or an affective disorder. Confusional states are nearly six times more frequent in psychoses with child-bearing than in psychoses occurring in non-child-bearing women of the same age groups, and they form nearly one-half of all psychoses associated with child-bearing. There are always causal factors additional to the mere fact of child-bearing. They are hereditary predisposition in half the cases irrespective of type, and bodily or mental strains arising directly from the child-bearing in two-thirds of them. Bodily strains predominate in the confusional states, and mental strains in the affective disorders. Between one-third and one-half of the patients become psychotic in the first two weeks of the puerperium. Confusional states carry a mortality rate of 15% to 20%; but if the patient survives she practically always recovers. Schizophrenic patients rarely recover, and such patients often become chronic hospital invalids. These cases are seldom seen in *multiparæ*. Serious affective disorders tend to start later in the epoch than other psychoses. They end in recovery. Of all cases about one-half could have been predicted. Termination of the pregnancy should be considered if a patient with recognizable causal factors and any psychiatric symptoms at all is seen early in pregnancy. Two-thirds of cases show a risk of infanticide or suicide at some stage. The author concludes by saying that home treatment is suitable only in quiet confusional states and mild affective disorders. Other patients require mental hospital treatment, but must not necessarily be certified as insane to obtain it.

The Anovulatory Factor in Sterility.

L. S. GRIFFITH AND W. P. L. MCBRIDE (*American Journal of Obstetrics and Gynecology*, June, 1942) discuss the anovulatory factor in sterility. They discuss the value of the hormones of the serum of pregnant mares in the treatment of anovulation. Their findings are at variance with those usually recorded. They stress the value of endometrial biopsies in the investigation of sterility and quote the incidence of anovulatory menstruation according to numerous observers, the incidence varying with different investigators from 48% to 4%. They give short case histories of eight patients suffering from this disorder and claim to have cured seven of them by the injection of 400 to 800 international units of the hormone of pregnant mare's serum, on the tenth to fourteenth day of the menstrual cycle, each patient having two injections. They give the criteria to be adopted for the diagnosis of the presence of ovulation as mobilization of the nuclei of the gland cells and the presence of glycogen granules peripheral to these nuclei. One pregnancy occurred in the series.

Erythroblastosis Neonatorum.

CARL JAEVERT (*American Journal of Gynecology and Obstetrics*, June, 1942) discusses *erythroblastosis neonatorum*. The article covers a series of 55 cases. To the usual group of syndromes known as *icterus gravis*, *hydrops fœtalis* and *anæmia gravis*, the author adds a fourth symptom complex which he calls the "hæmorrhagic diathesis". This is distinct from the hæmorrhagic diathesis that is due to prothrombin deficiency. He says that careful studies of the cord blood, the placenta and autopsy data in this last group reveal the presence of erythroblastosis and the absence of hypoprothrombinæmia. The incidence of erythroblastosis is quoted as about 1 in 450. The author gives an account of the theory of Landsteiner that it is due to the presence of an Rh factor in the blood of the fœtus. A set of diagrams illustrates the Mendelian theory of inheritance of this factor. In *primiparæ* there will be a recurrence rate of 100%, but of only 50% in *multiparæ*. In the fœtus there was an incidence of 22% in the presence of congenital malformations. The main complications in the mother are toxæmia and excessive enlargement of the uterus. In the fœtus there is a tendency to distress during the actual labour, from asphyxia, and later there are jaundice, anæmia and a particular type of hæmorrhagic diathesis as already mentioned. Diagnosis before birth can only be achieved by the history given of previous babies suffering from the disease or by knowing that the mother is "Rh negative" and the father "Rh positive". Diagnosis after birth is made by examining cord blood stained by Wright's method and observing the erythroblasts and normoblasts. A second method is by examining a microscopic section made from the placenta. Finally the author stresses that one should look out for fœtal distress during the labour and after delivery and should give early, repeated and frequent transfusion of blood.

The Indications for Cæsarean Section.

L. PHILLIPS (*The Practitioner*, March, 1942), quoting from statistics obtained from a ten-year period at Queen Charlotte's Hospital, discusses the indications for Cæsarean section in various conditions. During the period under review there were 37,871 deliveries, and Cæsarean section was performed 684 times, that is, in nearly 2% of cases. That a live baby is not always obtained is shown by the fact that the fœtal mortality rate in booked cases was 5·6% and in the 117 emergency cases 19·6%. The maternal mortality rate ranged from 1·4% to 3%. The type of operation and the time when it is done in relation to the duration of labour are vital factors and, as the author states, the above results represent the figures of the Queen Charlotte's Hospital and not of the country as a whole, where the rate is considerably higher. Whatever method is adopted the risk is at least ten times as great in the ablest hands under the best obtainable conditions and 20 to 25 times as great when the conditions are not so nearly ideal as when normal delivery is achieved. The author asks whether these facts and figures are sufficiently appreciated and understood by the profession and public. As regards individual indications the author states in dealing with pelvic disproportion that a contracted pelvis is probably the rarest cause of a floating head. Lack of fixation of the head is more likely to be due to minor degrees of malflexion, malposition of the head, extension in an occipito-posterior position, hydramnios, and *placenta prævia*. In cases of minor disproportion it is better to lose an occasional baby than an occasional young mother. In women over forty years of age, pregnant for the first time, the baby should be given every chance by Cæsarean section. In some cases of heart disease, Cæsarean section is necessary; but it is by no means a certain method of obtaining a live baby, and generally speaking it more than doubles the maternal mortality rate. In *placenta prævia*, Cæsarean section has a place in reducing the maternal mortality; but routine blood transfusion and experience and judgement in selecting the best method of treatment in the individual case are the keynotes to success. In the period from 1924 to 1936. Cæsarean section was done for eclampsia once only and the patient died. Cæsarean section was introduced to save maternal life and lower maternal mortality. It may well have the opposite effect. Experience, judgement and an obstetric conscience on the part of the medical attendant are the chief safeguards of child-bearing patients.

British Medical Association News.

SCIENTIFIC.

A MEETING of the New South Wales Branch of the British Medical Association was held on June 18, 1942, at the Royal North Shore Hospital of Sydney. The meeting took the form of a number of clinical demonstrations by the members of the honorary medical staff of the hospital. Part of the report was published in the issue of September 19, 1942.

Carcinoma of the Lung.

DR. BRUCE WHITE showed a male patient, a Russian, aged fifty-nine years, who had suffered from lassitude and fatigue for one month and from hæmoptysis for two weeks. One night, two weeks before his admission to hospital, he had suddenly coughed up about one teaspoonful of blood, and hæmoptysis of similar magnitude had recurred almost every day since then. Coughing was accompanied by pain behind the sternum.

Examination revealed the patient to have a frequent unproductive cough. At the base of the left lung vocal fremitus was diminished, the percussion note was dull and the breath sounds were tubular. No other abnormality was detected. His blood pressure was 140 millimetres of mercury systolic and 100 diastolic. On May 14, 1942, a skiagram of the chest revealed a triangular area of atelectasis in the left cardio-phrenic angle. There was complete obstruction of the bronchus supplying that area, with irregularity of the main bronchus at that level. The appearance suggested a newgrowth, probably an endobronchial carcinoma. On May 22 a bronchoscopic examination was performed and a biopsy specimen was taken. Pathological examination of the excised tissue revealed a bronchial carcinoma infiltrating fibrous tissue. The cancer cells were in some instances large and occurred singly or in small solid masses, but in other areas there was a suggestion of acinar formation; this indicated that the site of origin was more probably in columnar epithelium than in squamous epithelium. The report on the bronchoscopic examination was to the effect that the bronchoscope was passed in the left main bronchus; just below the level of the upper branch a large mass was seen, which was granular in appearance. The mass was considered to be a malignant neoplasm.

Possible Bronchogenic Carcinoma and Traumatic Pneumothorax.

Dr. White next showed a male patient, aged forty-seven years, who had been admitted to hospital on May 14, 1942. He had been well until one month previously, when he began to suffer from pain low down in the right side of the chest; during this attack he coughed up small quantities of blood. He went back to work after three weeks, and then on six occasions he coughed up about half a cupful of blood. He had no cough on his admission to hospital and he had lost no weight.

On examination, the patient appeared to be a healthy, well-nourished man. Vocal fremitus and resonance were increased in the right axillary line, and there was a small area of bronchial breathing below the right scapula. No other abnormalities were detected.

On May 15 a bronchoscopic examination was performed and a biopsy specimen was taken. Seven hours after operation the patient suddenly collapsed and complained of pain in the chest. A spontaneous pneumothorax was diagnosed clinically, and its presence was subsequently confirmed by X-ray examination. On June 3 a fluoroscopic examination was made. The pleural cavity was seen to be one-third full of fluid, and the lung was collapsed to the hilum. Forty ounces of diluted blood were aspirated. On June 6 500 cubic centimetres of air were withdrawn. On June 8 the same procedure was repeated, 650 cubic centimetres of air being withdrawn. A fluoroscopic examination revealed that the lung had expanded and a small amount of fluid was present.

The reports on the two bronchoscopic examinations were as follows. On May 15 some tracheitis with sticky discharge seemed to be present; this was noticed also in the right main bronchus. The lower right main bronchus was roughened and hyperæmic, and the granular appearance of the postero-medial part suggested carcinoma. At this examination a biopsy specimen was taken, examination of which revealed some connective tissue and a small fragment of lung tissue, but no evidence of neoplasm. The second bronchoscopic examination was made on June 12. On the posterior wall of the right main bronchus, at the level of the origin of the upper lobe bronchus, there was a small projecting area surrounded by a bleb-like swelling, which did not rupture when the bronchoscope passed over it. Inspection of the lower right main bronchus revealed a slight amount of hypersecretion. It was considered probable that that abnormal area represented the site of the rupture causing the previous pneumothorax.

Lung Abscess Treated by the "De-roofing" Method.

Dr. White's next patient was a male, aged fourteen years, who had been admitted to hospital on October 2, 1941. He had had a cough with thick, offensive, yellow sputum and pain in the left side of the chest for seven months, following tonsillectomy and adenoidectomy. He had had a slight hæmoptysis about two months before his final admission to hospital. A bronchoscopic examination had been performed on August 19, 1941, when a large amount of pus was seen coming from the left main bronchus. Lipiodol was injected and X-ray examination revealed an opaque mass at the level of the base of the upper lobe of the left lung, extending from the hilum to the axilla.

On examination, the boy was seen to be thin and pale, with offensive breath. Examination of the chest revealed diminished movement on the left side, equal vocal fremitus on both sides, slight impairment of the percussion note in the left axilla and vesicular breath sounds with no accompaniments at all areas. There were no other relevant findings.

On October 9 an exploratory thoracotomy was performed by Dr. B. T. Edye. Portions of the fourth and fifth ribs were removed in the left axillary line. A needle was inserted into the lung and a small amount of thin, blood-stained fluid was aspirated. The wound was packed with iodine gauze, to promote pleural adhesions. On October 16 Dr. Edye reopened the old wound; the gauze was removed and the lung was explored with a needle. A "+"-shaped incision was made into the abscess and the loculi were broken down with the finger; the cavity was found to measure approximately two inches by one and a half inches. A rubber drainage tube was inserted and the wound was packed with "Vaseline" gauze. On December 4 the wound was probed with the finger and a large amount of pus escaped. A rubber drainage tube was inserted. On January 18, 1942, portion of the third and fourth ribs were resected subperiosteally. An abscess cavity was found at the apex of the left lung; it was loculated, and contained necrotic lung tissue. A small bronchial fistula was present. The abscess cavity was opened and pus and necrotic material were swabbed out. The roof of the lung abscess was cut away and the edges were sutured to the parietal pleura. The pleural cavity was opened accidentally during the operation, so sulphanilamide powder was dusted into the pleural cavity, a drainage tube was inserted in the eighth intercostal space and negative pressure drainage was instituted. A blood transfusion was given at the conclusion of the operation and sulphathiazole therapy was instituted.

On the patient's admission to hospital he had a remittent type of pyrexia, his temperature ranging from 99·5° to 102° F.; but after incision and drainage of the lung abscess, the pyrexia became intermittent in type, the temperature ranging from 98·4° to 100° F. This intermittent pyrexia continued, but after the abscess cavity was probed it was reduced to a lower level. After the abscess cavity had been "de-roofed", the temperature took five weeks to attain a normal level. A pathological examination of the wall of the lung abscess showed it to be bronchiectatic in structure. The columnar epithelial lining was in part replaced by granulation tissue, and the wall was infiltrated by inflammatory cells. The surrounding lung tissue was fibrotic, and the bronchioles were unusually conspicuous owing to the contraction of this tissue. Some of the bronchioles were lined by metaplastic epithelium.

Actinomycosis.

Dr. White next showed a male patient, aged forty-four years, a business executive in the tobacco industry. In October, 1941, he complained of general lassitude and nervous irritability; he was working long hours. The symptoms persisted, together with an irritable cough, but little sputum was produced. In January, 1942, an X-ray examination revealed abnormal appearances in the upper lobe of the right lung, suggestive of exudation, possible fibrosis and possible cavitation. From January until May, 1942, the symptoms persisted, and he had periodic bouts of slight fever. His sputum was repeatedly examined for the tubercle

bacillus, and culture of the sputum was attempted on two occasions. No tubercle bacilli were found. In May the patient came to Sydney for observation and treatment. At that time his symptoms were general lassitude, nervous irritability and an irritating cough.

On examination, he was seen to be a thin type of man, weighing eight stone four pounds. The percussion note was dull over the upper lobe of the right lung, and a few râles were heard on auscultation. A skiagram of his chest revealed an area of consolidation in the upper lobe of the right lung and possible cavitation; a slight degree of atelectasis was also present. The appearances were suggestive of pulmonary tuberculosis. Further examination of the sputum revealed no tubercle bacilli; but the streptothrix organism was found. In confirmation of this finding a bronchoscopic examination was made, and a specimen of sputum from the bronchial tree again yielded the streptothrix in large numbers. The patient was treated with large doses of potassium iodide (30 grains three times a day), and the administration of small doses of deep X rays had just been begun by Dr. Harold Ham.

Pulmonary Tuberculosis Treated by Monaldi's Method.

Dr. White finally showed a female patient, aged twenty-four years, who had been admitted to hospital on May 15, 1942. Five years previously her condition had been diagnosed as pulmonary tuberculosis following pleurisy and pneumonia. Before her admission to hospital she had had gold therapy, an artificial pneumothorax for two years, and crushing of the phrenic nerve, all without arrest of the disease.

On her admission to hospital the patient's condition was good, and she had gained over one stone in weight since the commencement of treatment. On May 21 X-ray examination of the left lung revealed a large cavity, the position of which was localized by antero-posterior and lateral skiagrams. Under local anæsthesia, and with premedication by morphine, a small catheter was inserted by means of a special trocar and cannula into the cavity through a small incision between the scapula and the vertebral column, after Monaldi's technique. On May 25 negative suction drainage was instituted.

Medical Societies.

MELBOURNE PÆDIATRIC SOCIETY.

A MEETING of the Melbourne Pædiatric Society was held on July 8, 1942, at the Children's Hospital, Melbourne, DR. H. L. STOKES, the President, in the chair. The meeting took the form of a series of clinical demonstrations by some of the members of the society.

Congenital Anomalies of Bones.

DR. B. R. HALLOWS showed a male baby, aged eight months, with congenital absence of the upper half of the left femur, absence of the left fibula and congenital dislocation of the right hip. The child was born at full term, and at birth weighed eight pounds two ounces. Three older brothers were all well. It was noticed by the parents that the baby's left lower limb has always been shorter than the right one. The shortening was gross, so that the foot was about at the level of the knee joint of the other leg. Both the thigh and the leg were bowed anteriorly, and a calcaneoid deformity of the foot was present. The natural position for the limb was one of right-angled flexion at the hip and knee joints.

Dr. Hallows demonstrated in skiagrams the absence of the upper half of the femur and the fibula, the anterior bowing of the tibia and the congenital dislocation at the right hip joint. He said that the immediate necessity was to treat the congenital dislocation of the right hip. He invited discussion concerning the question of the advisability of amputation of the left leg. If amputation was thought advisable, he asked for advice as to when it should be performed and at what level; if amputation was not thought advisable, he asked for information concerning the form of prosthesis that should be used.

At the time of the meeting the child was on Putti's triangular splint for the treatment of the dislocation, and Dr. Hallows mentioned that he proposed later to fit a suitable prosthesis and await the result; if it was not satisfactory, then he thought the question of operation should be raised. He remarked that the cause of the deformity was obscure, but that Brailsford had stated that the most common congenital defect of the shaft of the femur was retardation of the ossification of the upper half of the femur. Dr. Hallows added that it was usual, when the patient was seen at an early stage, to propose amputation to the parents. The length of the femur increased only slightly, and the disproportion remained, producing a short, thick femur at right angles to the trunk. The orthopædists amputated the limb just below the knee joint, leaving a short thick stump for the prosthesis. If amputation was refused, a walking calliper splint was applied, fitted high up with a platform at the level of the foot inside the outer iron of the walking calliper. A third possibility was that the short limb might be opened after traction and a bone graft inserted. His own view, however, was that he should watch and wait, and decide at a later date where and when to amputate the limb. With that view several of the members of the society expressed agreement.

Malformation of the Lumbo-Sacral Part of the Spine.

Dr. Hallows also showed a female baby, aged four months; she had been born at full term, and at birth weighed five pounds thirteen ounces; she was breast fed. The child had one older normal sister. The baby was born with malformation of the spine and prolapse of an organ in the perineum. Dr. Hallows described the presence of a large cystic swelling at the lumbo-sacral region of the spine; the summit was covered with granulation tissue (*area medullo-vasculosa*), and adjoining that area was a zone of delicate epithelium (*zona epithelioserosa*) which merged into the periphery of the tumour and which was covered with skin (*zona dermatosa*). Communication with the cerebro-spinal fluid of the skull was present, because when the child cried the tension in the swelling increased concomitantly with the bulging of the anterior fontanelle. At the vulval orifice there was a prolapse of the recto-vaginal septum, and the anus was small and rosetted. The feet were in the position of talipes calcaneo-valgus deformity. A small dermoid swelling was present in the region of the inner canthus of the right eye. Dr. Hallows demonstrated in skiagrams the rounded tumour, from the posterior part of the back as seen in the lateral films, and extending more to the right than to the left side in the antero-posterior films. He said that the films had been exposed on March 21, but that five weeks later the tumour was much larger, and that on June 17 he had observed that the circumference of the skull was 16§ inches, which was rather large for the age of the baby, the average size being about 15 inches. There was no bony abnormality of the skull and no demonstrable increase in intracranial pressure. Since he had first examined the baby, the prolapse of the vagina had become reduced spontaneously and the myelo-meningocele had become completely epithelialized.

Dr. Hallows explained that the child remained in good health and was gaining weight satisfactorily, but he wondered whether the question of operation should be considered. A myelo-meningocele was present with direct communication with the cerebro-spinal fluid of the skull; this was beyond dispute, and the increased circumference of the skull was suggestive of early hydrocephalus. He thought that the optimal time for operation would be when the child was aged between four and six months, and the condition of the tumour was satisfactory, in that it was completely epithelialized and free from infection. However, there remained for consideration the very small anal orifice and the paralysed and deformed state of the feet.

Pink Disease in One of Twins.

DR. ROBERT SOUTHBY showed a girl, aged thirteen months, suffering from pink disease. He said that he had examined her first on June 12, 1942. She was one of twins, and had weighed only five pounds at birth. For four months she was breast fed, but was always difficult to feed. At four months feeding with "Vi-Lactogen" was begun, but she did not take the food well. At eight months she would take "Maizena", arrowroot or sago and milk-arrowroot and coffee biscuits, but would take egg only very occasionally and did not like shank broth. At the age of ten months she began to refuse food altogether, and became irritable and restless; she did not sleep at all well at night and sweated freely, and a rash appeared on the trunk and limbs. She became more irritable, disliked the light, and grew soft and flabby, being unable to stand or sit without support.

Dr. Southby said that the baby had not had orange juice or vegetables. She was examined at the hospital for the first time after three months of progressive illness, and

presented the classical clinical picture of pink disease. The desquamation of the palms and soles and of the nose was obvious. He had instructed the mother to give "Marmite" or "Vegemite" with the feedings and to add "Bemax" and "Adexolin". Phenobarbital and calcium were prescribed, and methylated spirit was used on the skin. Between June 18 and July 2, six cubic centimetres of "Vibex" were injected hypodermically; this amount was equivalent to 120 milligrammes of vitamin B_1. From the time of the first injection clinical improvement had been recorded; the baby showed some interest in food and became less flabby and less photophobic, and the skin was less irritable. She was taking much more interest in her surroundings, and both she and her mother were sleeping at night. The point of interest was the absence of pink disease in the case of the male twin.

DR. GUY SPRINGTHORPE said that the mother had informed him that from the beginning she had fed the male child first at the breast, and an hour later each time she fed the female child. He thought that point was of interest as an indication that the female child had received less breast milk than the male, even before weaning became necessary.

Dr. Southby added that it was safe to use vitamin *B* in excess, but that overdosing with fat-soluble vitamins might lead to calcification of the vascular system.

Polyposis with Clubbing of the Fingers.

DR. W. MCLAREN showed a boy, aged eleven years, who from the age of two years had been subject to attacks of diarrhœa and vomiting, with blood and mucus in the stool, occurring every three or four weeks and lasting for about four days. The blood had not been constantly present for the past four months. At the age of eight years he had begun to have severe night sweats. He had always suffered from lassitude and from dyspnœa on exertion, had had a poor appetite and was prone to epistaxis. On two occasions, some two years before the meeting, he had had painless hæmaturia, but no frequency of micturition or scalding had been present at any time. In the week before his admission to hospital he had coughed up sputum containing blood; however, that state of affairs generally followed an epistaxis.

Dr. McLaren said there was a strong family history of tuberculosis; three uncles had died of the disease and the boy's mother and sister suffered from it. The child was a sallow-complexioned lad, with gross clubbing of the fingers and toes. The heart was slightly enlarged, and a soft systolic bruit was audible, maximal in the fifth left intercostal space. The lungs had been examined carefully, but no abnormality had been detected. The liver was enlarged downwards for a distance of about five centimetres, and the edge felt firm and regular. The spleen was palpable and the edge was about one centimetre below the costal margin. No œdema, petechiæ or free fluid was found.

Dr. McLaren then described the investigations that had been carried out. In skiagrams of the chest taken on May 8, 1940, some soft mottling was visible at the base of each lung, more extensive on the right side; the appearances were suggestive of bronchitis rather than of a parenchymatous lesion. The cardiac outline was not considered to be enlarged, though it was thought that there was some prominence of the *conus arteriosus*. Dr. McLaren also demonstrated in skiagrams taken on June 27, 1942, that the fields of the lungs were clear and the outline of the heart was unchanged. Fouchet and Van den Bergh tests produced negative results on May 6, 1940; but on June 30, 1942, although the Fouchet reaction was not obtained, the Van den Bergh reaction was faint and indirect in type. On May 9, 1940, 170 milligrammes of cholesterol were estimated to be present in 100 cubic centimetres of blood; the hippuric acid excretion test resulted in 1·24 grammes of benzoic acid being recovered in four hours. At no time had the urine been found abnormal on examination; but the fæces often contained blood and mucus. On May 24, 1940, in a differential leucocyte count, polymorphonuclear leucocytes were estimated at 43% and lymphocytes at 47%; but in June, 1942, the polymorphonuclear cells were 36% and the lymphocytes 55% in a total count of 12,000 leucocytes per cubic millimetre of blood. Recently the erythrocytes were found to number 4,400,000 per cubic millimetre, and the hæmoglobin value was 73%. The blood films, even on sternal puncture, were substantially normal in appearance, and the platelets numbered only 270,000 per cubic millimetre. The blood serum had not yielded the Wassermann reaction; the Mantoux and Casoni intradermal tests produced no reactions, and in a preparation of the sputum no tubercle bacilli had been found.

Dr. McLaren then said that, comparatively recently, Dr. Howard Williams had made the discovery of the presence of quite a number of polypi in the lower portion of the bowel, and he invited him to describe what he had seen through the sigmoidoscope.

DR. HOWARD WILLIAMS said that he had passed the sigmoidoscope to the 20 centimetre mark, and the bowel mucosa there was quite normal in appearance; but when the sigmoidoscope was withdrawn to the 15 centimetre distance, two sessile polypi were observed, and between that point and the anus, about ten more polypi of various sizes came into view. Several were actually palpable on introduction of the gloved finger, and two or three small hæmorrhoids were also felt. A polypus near the anus looked as if it had bled recently, but it might have been traumatized by the introduction of the instrument.

Dr. Southby said that the clubbing of the fingers and the rapid heart rate were suggestive of a congenital heart anomaly. In addition, there did not appear to be much myocardial reserve, but there was not and had not been any cyanosis. Clubbing of the fingers without cyanosis had been reported in association with polyposis of the large bowel.

DR. KEITH HALLAM said that it was clear from the radiologist's point of view that the heart's outline was normal and not like that seen in congestive states. He had formed the impression, therefore, that the hepatomegaly was not due to cardiac insufficiency. He also thought that it should be determined whether the clubbing of the fingers was periosteal or due to swelling of the soft tissues.

DR. A. B. MCCUTCHEON commented on the strong family history of tuberculosis; yet the child appeared to have escaped, and the Mantoux test produced no reaction.

Dr. Springthorpe said that Dr. Ian McLean, at the Alfred Hospital, had not included enlargement of the liver in his description of cases of polyposis associated with clubbing of the fingers.

Dr. McLaren added that the boy complained of dyspnœa on exertion and could not run about freely or take part in the usual games. He, too, had noticed that there had been no mention of the size of the liver in reported instances of polyposis with clubbing of the fingers; but he had seen a reference to the possibility that, if they were left without operation, the patients might contract carcinoma of the bowel at the age of about thirty years. He agreed with Dr. Hallam that it was hard to ascribe the hepatomegaly to a heart anomaly. He took the view that they were dealing with a disease of the reticulo-endothelial system, and that the glandular enlargement and the polyposis might be two separate entities.

Naval, Military and Air Force.

CLINICAL MEETING AT ADELAIDE.

A MEETING arranged by the honorary medical staff of the Royal Adelaide Hospital for medical officers of the Services, particularly those of the United States Army, was held on July 19, 1942, at the Verco Lecture Theatre, Institute of Medical and Veterinary Science, Frome Road, Adelaide, SQUADRON-LEADER I. B. JOSS being in the chair. The meeting took the form of a number of clinical demonstrations.

Neuritis due to Intramuscular Injection of "Dagenan".

MAJOR P. S. MESSENT showed a male patient, who had been admitted to hospital on April 10, 1942, suffering from a condition which was suspected of being meningitis. Injections of "Dagenan" were unfortunately given into the arm, with resulting nerve damage. The correct diagnosis ultimately proved to be subarachnoid hæmorrhage. On May 31 wrist drop developed, and on June 2 a necrotic ulcer appeared near the lower part of the deltoid, where one of the injections had been made. An area of anæsthesia appeared over the outer surface of the arm, extending to the proximal portion of the forearm. A small area of anæsthesia was also present on the back of the hand, running on to the proximal part of the thumb and forefinger. On June 21 the reaction of degeneration appeared. By July 3 the ulcer had healed. The areas of anæsthesia and the wrist drop persisted; this fact indicated a lesion affecting the upper radial nerve and the lateral cutaneous fibres.

Major Messent said that there were several points of interest. The first was that it was much safer to give intramuscular injections into the outer part of the thigh,

where they would not bring about nerve damage. Another point of interest was the question of recovery. He thought that the condition might recover after the main reaction of degeneration appeared. The problem was, how long a delay should there be before resection was attempted? He thought that if there was no evidence of recovery within two or three months, an exploratory operation might have to be performed.

Major Messent went on to discuss the resection of nerves. He said that it was necessary to be absolutely certain of asepsis. Therefore, in the case under discussion, since an ulcer had been present the decision to operate would have to be postponed. A further essential was hæmostasis. There must be no tension on the suture line. Major Messent pointed out that it was in some cases difficult to decide whether to resect the whole nerve or part of it. Moreover, one had to decide whether the removal of scar tissue alone would suffice. If after the removal of the scar tissue the nerve was quite soft and there was no hard mass in it, one might decide not to resect it, but merely to remove the scar tissue. The nerve was then sutured, and if any reaction occurred on testing resection need not be carried out.

Mediastinal Tumour.

CAPTAIN K. S. HETZEL showed a male patient suffering from a mediastinal tumour. The patient was a blacksmith's assistant, who had reported for routine examination on October 28, 1941. At that time a shadow was observed, extending to the left of and being continuous with the shadow of the aorta and the upper portion of the left border of the heart. The patient felt well. The Mantoux test and the Wassermann and other tests all failed to produce a reaction. The suggested diagnosis was either Hodgkin's disease or a dermoid cyst. He was given a course of deep X-ray therapy, and reported at intervals of one month thereafter until the end of April, 1942. At that time it was found that, although the shadow in the mediastinum was unaltered, he had a fixed lump in the neck above the clavicle. A section of the lump was submitted to biopsy, but only inflammatory tissue was found. An attempt at culture from the material produced no growth of organisms. Captain Hetzel said that the diagnosis was still in doubt; however, if the condition had been Hodgkin's disease, one would have expected it to respond to deep X-ray therapy.

Acute Hæmolytic Anæmia.

Captain Hetzel also showed a soldier who, when travelling in a closed motor car, became nauseated and thought he was being gassed. He gradually became anæmic; the hæmoglobin value dropped to 25% and the number of erythrocytes to 1,500,000 per cubic millimetre. Reticulocytes, myelocytes and normoblasts were present. The spleen was slightly enlarged. Two blood transfusions did not improve his condition. His skin became yellow, and the Van den Bergh test produced an indirect positive reaction. After he had received a total of ten pints of blood at six transfusions in a period of fourteen days, his condition improved, the jaundice becoming less. The spleen was slightly larger. The hæmoglobin value became stationary at 60%. Some agglutination of the patient's own cells to some extent complicated the transfusions. He was subsequently given liver injections and iron. At the time of the meeting the hæmoglobin value was 80% and the Van den Bergh test failed to produce a reaction. The retinal hæmorrhages, which had been present, had ceased. The diagnosis was considered to be acute hæmolytic anæmia. Captain Hetzel remarked that if such patients were not treated by blood transfusion, to which they were responsive, the lesion usually proved fatal.

Compound Fracture of the Femur.

LIEUTENANT-COLONEL L. C. E. LINDON showed a patient who had sustained a wound in the buttock and a compound fracture of the femur near the trochanter; a piece of shell had lodged near the neck of the femur. Acute osteomyelitis developed, and then multiple abscesses followed by toxic secondary anæmia and arthritis of the hip. This condition was followed by suppurative perineuritis—a fairly common complication in such circumstances. Colonel Lindon pointed out that in the last war high compound fractures of the femur and suppurating wounds of the knee joint had extremely high mortality rates. However, chemotherapy had diminished the mortality rate in the present war. Hæmorrhage and infection were the two main factors likely to bring about a bad result. Therefore the prognosis depended in no small measure on the treatment carried out by the first surgeon fully equipped to deal with the casualty. In the case of gunshot wounds of the buttocks *et cetera*, he had first to remove the foreign body. Drainage was difficult, because the patient usually had to be nursed in the prone position. Such patients were put in a plaster spica, and after having been transported 500 miles by destroyer and aeroplane they arrived in good condition—in better condition than those who were put in a Thomas splint. The plaster spica was used for the period of transport only. Colonel Lindon said that blood transfusion was extremely valuable in such cases, and should be given if the hæmoglobin value fell below 60% or 65%. Sulphanilamide was now universally used. It was of value as a prophylactic and therapeutic agent, and should be administered both orally and locally.

Fracture of the Tibia.

Colonel Lindon also showed a patient who had had the greater part of the head of the tibia shot away. The wound was widely opened and the limb was immobilized. Several arthrotomies were performed, and a little sulphanilamide was given. At the time of the meeting the patient was doing well, being capable of walking a little.

Possible Lymphosarcoma.

COLONEL SIR TRENT DE CRESPIGNY showed a male patient, aged forty-three years, a married man with two children. The patient, who was a labourer, had been well until seven weeks previously, when he had suffered from a sore throat. One week later his face began to swell on the left side; two weeks later again he noticed that his neck was swollen, and he was unable to fasten his singlet. Since then the swelling had increased, and he had had to take a larger size in collars. He had had a little shortness of breath for one week before his admission to hospital. He had no cough and his voice was unchanged. His face became purple if he bent down. His weight had remained constant. He had been under treatment for a duodenal ulcer for three months; the results of barium meal and test meal examinations were consistent with the presence of a duodenal ulcer.

On examination, the patient was found to have a normal temperature, and the pulse and respiration rates were normal. He was seen to be a middle-aged man, in no distress; his neck and face were flushed and swollen, and the external jugular veins were prominent. No mass or enlarged glands were palpable in the neck. Transversely lying veins were prominent in the front of the chest; the veins passing from the chest to the groins were engorged, and engorged veins were seen in the left arm. The heart and lungs appeared normal. The systolic blood pressure in the right arm was 85 millimetres of mercury and in the left arm 120; the diastolic pressure was 60 millimetres of mercury in the right arm and 85 in the left.

The Wassermann test failed to produce a reaction. The Casoni test produced no reaction after twenty minutes and a doubtful reaction after twenty-four hours. The blood was normal, the hæmoglobin value being 85%. An X-ray examination revealed a dense shadow occupying the whole of the upper part of the mediastinum; it overlapped the sternum and was rather symmetrical. The Radium Committee recommended deep X-ray therapy and subsequent X-ray examination of the stomach, as well as biopsy of the masses in the neck if this was possible. Colonel Sir Trent de Crespigny said that the treatment was to be begun at once.

Bronchial Carcinoma.

Colonel Sir Trent de Crespigny then showed a male patient, a labourer, aged fifty-two years, a married man with one child. He had been admitted to hospital ten weeks earlier, having been well until two weeks previously, when he noticed that the left side of his neck was swollen. Later he noticed a tight feeling in the chest while he was at work; pain in the left side of the chest developed, and he became short of breath. He lost a considerable amount of weight before his admission to hospital. He had suffered from dysentery and typhoid fever during the years from 1914 to 1918.

On examination, the patient was seen to be a middle-aged man with a suffused face. His temperature was 99° F., his pulse rate was 110 per minute and his respirations numbered 24 per minute. Fullness was noticeable on the left side of the neck, but no definite mass or enlarged glands could be discovered. Numerous small dilated veins were seen on the chest wall. The heart was normal. The right side of the chest was more prominent than the left side. The percussion note was impaired at the base of the left lung posteriorly, and rhonchi were heard in the same area.

The patient suffered from increasing weakness and dyspnœa on effort, and a cough developed. He brought up salty fluid. Five days before the meeting he coughed up

material like grape skin; this was seen by the house surgeon and reported, being considered probably carcinomatous material. Unfortunately the specimen was mislaid. Neither the Wassermann test nor the hydatid complement fixation test produced a reaction; but the Casoni test produced a positive reaction. No hydatid elements were seen in the sputum. The blood was normal, but in one specimen 10% of the leucocytes were eosinophile cells. An X-ray examination on May 11, 1942, revealed a mass connected with the right hilum suggesting bronchial carcinoma; the adjacent section of lung had collapsed. On June 16 a further X-ray examination revealed an increase in the size of the lesion and in the deflated portion of the lung. The diagnosis of pulmonary carcinoma was confirmed. The Radium Committee recommended deep X-ray therapy, and a course of treatment had been begun. Colonel Sir Trent de Crespigny pointed out that the suggestion that the lesion might be a hydatid cyst of the lung had never been proved or disproved.

General Paralysis of the Insane.

MAJOR G. A. LENDON discussed the early diagnosis of general paralysis of the insane. He said that early diagnosis was essential to treatment, but that in any case the results of treatment were only moderately good. One-quarter of the patients treated would show a certain amount of improvement. Early diagnosis was made (i) by consideration of the mental changes and (ii) on the presence of tremor of the tongue and face with alteration in the speech. The lesion usually occurred in men aged between thirty and fifty years. The change in the mentality was sometimes for the better, but usually for the worse. Attention might be drawn to it by various conditions; for example, the patient might have spent all his money and changed in his habits so that his family had had to leave him; he might have become morose or excitable, or he might have delusions, or he might have made silly changes in his business methods. The patient himself did not notice that he had changed, but other people did. Investigation might disclose the fact that the patient had suffered from syphilis and had had only scanty treatment. Serological examination, including the performance of the colloidal gold test, provided confirmatory evidence; but it had to be remembered that even when the colloidal gold test and the Wassermann test (applied to both the blood serum and the cerebro-spinal fluid) produced positive reactions, the condition was probably general paralysis of the insane if no tremor was present.

Major Lendon showed a patient suffering from general paralysis of the insane who had had malaria treatment and become maniacal after it. Major Lendon said that the man's condition had improved, but he still had slight tremor of the lips and tongue with some alteration in his voice.

Major Lendon said that the condition of patients receiving malaria treatment sometimes improved after each rigor; other patients, however, might become maniacal instead, but they frequently recovered later. Tryparsamide was usually given after the course of malaria treatment. It was questionable whether the optic atrophy that might follow the administration of tryparsamide was due to the drug or was merely a complication of the disease, because it occurred in tabetics. The headaches, seizures *et cetera* that might occur in general paralysis of the insane were usually due to subdural hæmorrhages.

Hydatid Disease.

SQUADRON-LEADER I. B. JOSE showed a series of patients suffering from hydatid disease. The first patient was a young man, who complained of general ill health and whose mother suffered from tuberculosis. The first X-ray examination revealed a healed primary complex and what appeared to be an area of tuberculous infiltration at the apex of the left lung. When the lower edge of this shadow was found at a later date to extend below the shadow of the third rib, the lesion was suspected of being a hydatid cyst. The Casoni test and the complement fixation test produced positive reactions. A skiagram taken in the lateral position revealed that the cyst was in the posterior part of the upper lobe and was causing some deflation.

Squadron-Leader Jose showed schematically how 75% of hydatid cysts occurred in the liver; 10% were filtered out by the lung capillaries and 15% were in other organs.

The second patient shown by Squadron-Leader Jose had a tumour of the liver unassociated with any symptoms. The cyst, which proved to be eight inches in diameter, was evacuated. Squdron-Leader Jose stressed the necessity for examining the liver when a hydatid cyst was found in the lung.

Squadron-Leader Jose's third patient had complained of cough and hæmoptysis, and an X-ray examination revealed a hydatid cyst at the base of each lung. He coughed up the left cyst, and then decided to have the right one removed. At operation another cyst was found in the liver; this was drained from below the diaphragm. The cyst in the right lung was removed later. X-ray examination at the time of the meeting showed that the cyst in the left lung had reformed, owing to the development of daughter cysts. Squadron-Leader Jose remarked that the case illustrated the point that the absence of symptoms in hydatid disease of the liver was not always due to the death of the cyst.

Squadron-Leader Jose then showed a skiagram in which a calcified hydatid cyst of the liver was to be seen. He said that it was usually the complications that brought hydatid disease of the liver to notice—rupture into the biliary channel, suppuration giving rise to a subphrenic abscess of unknown origin, or extrusion of cysts into the abdominal cavity. Rupture of cysts might lead to the patient's being admitted to hospital with the diagnosis of an acute lesion of the abdomen, possibly with signs of anaphylactic shock (for example, a rash).

Discussion.

CAPTAIN CALABRESE (United States Army Medical Service) asked whether it was more advisable to remove shell fragments during the initial treatment or at the base hospital.

Lieutenant-Colonel Lindon, in reply, said that it was not wise or possible to remove all foreign bodies. Their removal should be attempted by the first adequately equipped team—one having X-ray facilities. However, foreign bodies in the brain or thorax were not included in this opinion.

MAJOR J. S. VERCO asked whether patients who had sustained gunshot wounds of the buttocks were being nursed in Sinclair frames, as had been done with advantage during the last war.

Lieutenant-Colonel Lindon, in reply, said that they had had no Sinclair frames where he had been working. He thought they might well be used in some cases.

MAJOR HOLLENBECK (United States Army Medical Service) asked whether sulphanilamide should be given by the oral route immediately after a wound had been received.

Lieutenant-Colonel Lindon, in reply, said that such use of sulphanilamide was an important prophylactic measure. He pointed out that units which used it obtained better results than the others. He said that what had happened at Pearl Harbour was proof of that fact.

LIEUTENANT-COLONEL WILLIAMS said that some of the Australian Army Medical Corps did not give sulphanilamide until the casualty reached the main dressing station. Then they gave it only if they thought that infection might be a danger. They gave six tablets (three grammes) and repeated the dose in ten hours.

Major G. A. Lendon referred to Major Messent's patient. He stressed the danger of injecting "Dagenan" into the arms, especially if the patient was unconscious and so unable to give warning of damage to a nerve. Major Lendon suggested that a little air should be left in the syringe to follow the "Dagenan" and so avoid a track up from the muscle.

Colonel Sir Trent de Crespigny said that the administration of sulphapyridine to unconscious patients suffering from cerebro-spinal meningitis was better carried out through a nasal catheter than into a muscle. The optimum blood concentration was produced most quickly by the intravenous route, less quickly by the nasal catheter and still less quickly by intramuscular injection.

CAPTAIN KRENTZ (United States Army Medical Service) asked whether the acute hæmolytic anæmia of Captain Hetzel's patient had a familial background or any tendency to recur.

Captain Hetzel said that such was not the case. The patient's spleen had regressed in size after the hæmolysis ceased. The fragility of the cells was sometimes increased, but not usually.

COLONEL A. R. SOUTHWOOD asked about the number of reticulocytes in the patient's blood.

Captain Hetzel said that the number was high. He suggested the possibility that the anæmia might be of the same type as the acute hæmolytic anæmia of pregnancy.

Colonel A. R. Southwood, Deputy Director of Medical Services, South Australia Line of Communications Area,

then thanked Squadron-Leader I. B. Jose and the honorary staff of the Royal Adelaide Hospital for a well-arranged and instructive demonstration.

COLONEL HANNA and COLONEL KEELING (United States Army Medical Service) also expressed their appreciation of the demonstration.

APPOINTMENTS.

THE undermentioned appointments, changes *et cetera* have been promulgated in the *Commonwealth of Australia Gazette*, Number 246, of September 10, 1942.

CITIZEN NAVAL FORCES OF THE COMMONWEALTH.

Royal Australian Naval Reserve.

Honorary Rank.—Alan Francis Oxenham is granted the honorary rank of Surgeon Lieutenant-Commander, dated 1st August, 1942.

Royal Australian Naval Volunteer Reserve.

Termination of Appointment.—The appointment of Alan Francis Oxenham as Surgeon Lieutenant (on promotion) is terminated, dated 31st July, 1942.—(Ex. Min. No. 75.)

ROYAL AUSTRALIAN AIR FORCE.

Citizen Air Force: Medical Branch.

The probationary appointments of the following Squadron Leaders are confirmed: H. C. Finn (2079), V. N. B. Willis (2872), L. R. Flynn (3940).

The probationary appointments of the following Flight Leutenants are confirmed: D. O. Longmuir (3239), W. G. Norman (3250), E. D. M. Ryan (3343), S. D. Mecoles (3432), W. A. McKay (3472), J. D. Bishop (2373), B. N. O. Colahan (3225), I. R. Barrie (3252), C. B. Hudson (3255), R. D. MacBeth (3254), T. F. Ahern (3339), K. J. Basedow (3342), A. R. Robinson (3475), D. G. Hamilton (3718), R. E. Ashbarry (3724), P. A. Foley (3725), F. G. Favaloro (3718), C. C. Greenwell (3714), O. H. Schneider (3716), (Acting Squadron Leader) H. J. R. Gamble (1685), R. G. Weaver (1460), G. Matthews (3561), A. H. Campbell (3730), J. M. Moyes (1802), F. J. Collett (3257), J. T. W. Sweeting (3253), H. G. Andrew (3733), R. A. J. Stanton (3731), T. H. Walker (3732), (Acting Squadron Leader) E. V. W. Pockley (3752), H. N. Merrington (3751), T. J. Fennell (3864), H. B. Frayne (3737), J. B. Moffatt (3738), A. J. Thurecht (3739), H. L. Whitby (3950), G. Buckland (2751), A. W. Bull (3401), A. R. T. Greenwood (3949).

The probationary appointment of Pilot Officer R. Hiddlestone (3479) is confirmed and he is promoted to Flying Officer with effect from 5th July, 1942.—(Ex. Min. No. 127—Approved 9th September, 1942.)

Edward Vanderbyl Waddy Pockley, M.B., B.S., D.O., D.O.M.S., F.R.A.C.S. (3752) is appointed to a commission on probation with the rank of Flight Lieutenant, with effect from 5th January, 1942. (Previous notification concerning this officer which appeared in *Commonwealth of Australia Gazette*, No. 45, dated 12th February, 1942, is cancelled.)

The following Flight Lieutenants are transferred from the Reserve, with effect from the dates indicated: Owen Wheatley Bowering, M.B., B.S. (5170), 10th July, 1942; William Alexander Leventhal, M.B., B.S. (3409), Norman James Royle, M.B., B.S. (4369), 13th July, 1942; Ian Filshie, M.B., B.S. (6383), Victor Warren Pennington, M.B., B.S. (6384), 27th July, 1942; John William Lee Atkinson, M.B., B.S. (1414), 29th July, 1942.

Reserve: Medical Branch.

The following are appointed to commissions on probation with the rank of Flight Lieutenant, with effect from the dates indicated: Ronald Ernest Hearn, M.B., B.S. (6390), 15th July, 1942; Alan Peter Roberts, M.B., B.S. (6395), Geoffrey Sutherland, M.B., B.S. (6391), 30th July, 1942.—(Ex. Min. No. 132—Approved 9th September, 1942.)

The following are appointed to commissions on probation with the rank of Flight Lieutenant, with effect from the dates indicated: John Collier Trinca, M.B., B.S. (6389), 30th July, 1942; William Macleod Davies, M.B., B.S. (6407), 3rd August, 1942; Francis Andrew James Hetherington, M.B., B.S. (6381), 5th August, 1942; Ion Craig Morrison, M.B., B.S. (6409), 6th August, 1942.—(Ex. Min. No. 133—Approved 9th September, 1942.)

Correspondence.

POST-OPERATIVE TREATMENT OF MASTOID OPERATIONS.

SIR: Although my reply to Dr. Blashki's criticism of my post-operative treatment of radical mastoidectomy is belated, I think it is necessary, since Dr. Blashki does not confine his criticism to the post-operative treatment of radical mastoid operations with which my article was concerned. Firstly, he states in connexion with a patient whom he showed at the Royal North Shore Hospital, and who had undergone a simple mastoidectomy, that he would use a glass tube for drainage. This is quite unnecessary, for two reasons: (i) he would have to slit the posterior wall of the external auditory meatus; (ii) most simple mastoidectomy wounds will heal by first intention without drainage, provided that all the infected cells have been cleared out. My usual practice is simply to pack the cavity with sulphanilamide paste and ribbon gauze; the whole wound is closed, except for the place where the gauze protrudes. The gauze is removed in twenty-four hours.

I do not agree with Dr. Blashki's statement that the classical mastoid operation is a "dead letter", and that only the conservative type of operation with retention of the ossicles and membrane is desirable. In the cities, where neglect of undergoing necessary treatment is not so common as in the country, it is possible that radical mastoidectomy is not so frequently necessary as in the past; but I still see a number of patients whose condition has been neglected for years, and in these cases the ossicles have necrosed and cholesteatoma is present. It is essential that these abnormalities be removed. The conservative mastoid operation (or Heath's operation) mentioned by Dr. Blashki is by no means new, and it is suitable only in selected cases.

Dr. Blashki also confuses the issue with regard to my remarks about the danger of perichondritis. I agree that this is rare when the ear is treated by the usual method of gauze packing; but the danger is real when a rubber drainage tube is left *in situ* for one month, which is the main essential in my treatment. If the ear is not carefully watched, there is danger that perichondritis will supervene; it has occurred in two of my cases, especially when the ichthyol and glycerine solution was not allowed to percolate between the tube and the ear during dressings.

I think that when criticism of an operation is made, it should be clear that the criticism is of that operation and not of another of the same type. There is a vast difference between the classical radical operation and the modified Heath's operation on the one hand, and the simple cortical mastoid operations on the other.

Yours, etc.,
R. E. BUCKINGHAM.

60, Anson Street,
Orange,
New South Wales.
September 4, 1942.

Post-Graduate Work.

WEEK-END COURSE AT 113TH AUSTRALIAN GENERAL HOSPITAL.

THE New South Wales Post-Graduate Committee in Medicine announces that, in conjunction with the staff of the 113th Australian General Hospital, it will hold a week-end course on Saturday, September 26, and Sunday, September 27, 1942. The programme is as follows:

Saturday, September 26.

9 a.m.—Opening of Course by Colonel William Wood, Commanding Officer, 113th Australian General Hospital.
9.5 a.m.—"War Wounds of the Genito-Urinary Tract", by Major R. J. Silverton.
9.30 a.m.—"Injuries of the Jaws", by Major A. J. Arnott.
10 a.m.—"Cerebral Injuries in War", by Major W. Lister Reid.
10.30 a.m.—Demonstration of Ear, Nose and Throat Cases, by Major R. P. W. Francis.

11.15 a.m.—"Constitutional Temperamental Instability", by Major Desmond Arnott.
11.45 a.m.—Demonstration of Cardiazol Therapy, by Captain A. Cumpston.
Noon.—Demonstration of Pathological Specimens, by Major L. Utz.
2 p.m.—A Medical Subject, by Lieutenant-Colonel Kenneth Noad.
2.30 p.m.—Demonstration of Medical Cases, by Major Richmond Jeremy.
3 p.m.—"Types of Œdema: Demonstration of Cases", by Lieutenant-Colonel Sir Charles Bickerton Blackburn, Kt., O.B.E.
3.40 p.m.—"Malaria", by Captain K. T. Hughes.
4.15 p.m.—"Special Cases of Dermatitis", by Major F. S. Hansman.
4.35 p.m.—Demonstration of X-ray Films, by Major Eric W. Frecker.

Sunday, September 27.

9 a.m.—Demonstration of Surgical Cases, by Lieutenant-Colonel A. C. Thomas.
9.40 a.m.—Demonstration of Surgical Cases, by Lieutenant-Colonel V. M. Coppleson.
10.20 a.m.—"Pilonidal Cyst", by Captain T. E. Wilson.
10.35 a.m.—Demonstration of the Nuffield Ether Vaporiser, by Major W. I. T. Hotten.
11.10 a.m.—"Physiotherapeutic Methods in Orthopædic Surgery", by Captain H. R. H. Beattie.
11.30 a.m.—"Knee Joint Injuries as a Factor in Army Wastage", by Major D. J. Glissan.
12.10 p.m.—"Meniscus Injuries", by Major John Hoets.

Those attending the course should enter through number 4 gate (this is the first gate reached, which is near the new building in Hospital Road) and report to the Registrar's Office in the administrative block. The course is to be held in the Physiotherapy Department in the new building.

There is no charge for attendance at the course, which is limited to members of the Australian and Allied Defence Forces, and is also limited to fifty. Application should be made in writing to the Secretary, New South Wales Post-Graduate Committee in Medicine, 145, Macquarie Street, Sydney, or by telephone (number B 4606), as soon as possible.

Nominations and Elections.

THE undermentioned have applied for election as members of the New South Wales Branch of the British Medical Association:

Stout, Alta Frances, M.B., Ch.B., 1935 (Univ. Edinburgh), c.o. Dr. H. K. Uren, High Street, Penrith.
Stout, Edward William, M.B., Ch.B., 1935 (Univ. Edinburgh), c.o. Dr. H. K. Uren, High Street, Penrith.
Leggo, Hedley Oliver Orion, M.B., B.S., 1942 (Univ. Sydney), 174, St. John's Road, Forest Lodge.
Blomfield, Edwin Cordeaux, M.B., B.S., 1942 (Univ. Sydney), Hornsby and District Hospital, Hornsby.
Dynon, Geoffrey Patrick, M.B., B.S., 1941 (Univ. Sydney), NX77349 Captain G. P. Dynon, 2/1 Australian Pioneer Battalion, Australian Imperial Force, Australia.

Medical Appointments.

Dr. Thomas Neville Rowlands has been appointed Government Medical Officer at Holbrook, New South Wales.

Dr. Edmund Britten Jones has been appointed a Medical Referee for the purposes of the Scheme made pursuant to Part IXA of the *Workmen's Compensation Act*, as enacted by the *Workmen's Compensation Act Amendment Act*, 1935, of South Australia.

Books Received.

"Fifth Addendum to the British Pharmacopœia, 1932", published under the direction of the General Council of Medical Education and Registration of the United Kingdom; 1942. London: Constable and Company Limited. Medium 8vo, pp. 52.

"Demonstrations of Physical Signs in Clinical Surgery", by Hamilton Bailey, F.R.C.S. (England); Eighth Edition; 1942. Bristol: John Wright and Sons Limited. Demy 8vo, pp. 348, with 455 illustrations. Price: 25s. net.

"Surgery of Modern Warfare", edited by Hamilton Bailey, F.R.C.S.; Volume I, Second Edition; 1942. Edinburgh: E. and S. Livingstone. Crown 4to, pp. 496, with 375 illustrations. Price: 40s. net.

Diary for the Month.

OCT. 1.—South Australian Branch, B.M.A.: Council.
OCT. 2.—Queensland Branch, B.M.A.: Branch.
OCT. 2.—New South Wales Branch, B.M.A.: Annual Meeting of Delegates.
OCT. 6.—New South Wales Branch, B.M.A.: Council Quarterly.
OCT. 7.—Western Australian Branch, B.M.A.: Council.
OCT. 9.—Queensland Branch, B.M.A.: Council.
OCT. 13.—Tasmanian Branch, B.M.A.: Branch.
OCT. 13.—New South Wales Branch, B.M.A.: Executive and Finance Committee, Organization and Science Committee.
OCT. 20.—New South Wales Branch, B.M.A.: Ethics Committee
OCT. 21.—Western Australian Branch, B.M.A.: Branch.
OCT. 22.—New South Wales Branch, B.M.A.: Clinical Meeting.
OCT. 23.—Queensland Branch, B.M.A.: Council.
OCT. 27.—New South Wales Branch, B.M.A.: Medical Politics Committee.
OCT. 29.—New South Wales Branch, B.M.A.: Branch.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Honorary Secretary, 135, Macquarie Street, Sydney): Australian Natives' Association; Ashfield and District United Friendly Societies' Dispensary; Balmain United Friendly Societies' Dispensary; Leichhardt and Petersham United Friendly Societies' Dispensary; Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney; North Sydney Friendly Societies' Dispensary Limited; People's Prudential Assurance Company Limited; Phœnix Mutual Provident Society.

Victorian Branch (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federated Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

Queensland Branch (Honorary Secretary, B.M.A. House, 225, Wickham Terrace, Brisbane, B.17): Brisbane Associated Friendly Societies' Medical Institute; Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

South Australian Branch (Honorary Secretary, 178, North Terrace, Adelaide): All Lodge appointments in South Australia; all Contract Practice appointments in South Australia.

Western Australian Branch (Honorary Secretary, 205, Saint George's Terrace, Perth): Wiluna Hospital; all Contract Practice appointments in Western Australia.

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